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A

COMPENDIUM

OF

INSANITY.

BY

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PREFACE.

It has been the purpose of the writer to compile in a condensed and concise form a compendium of diseases of the mind for the convenient use and aid of physicians and medical students. It is hoped that it may also prove helpful to members of the legal profession and to others who, in their relations to the insane and to those supposed to be insane, often desire to acquire some practical knowledge of insanity, presented in a form that may be understood by the non-professional reader.

The author is under obligations to Dr. J. Montgomery Mosher for valuable aid in the preparation of the chapter on "Morbid Anatomy," for which he is especially fitted from his practical acquaintance with the subject, derived from his experience at home and abroad.

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A COMPENDIUM OF INSANITY.

CHAPTER I.

INTRODUCTION.

A KNOWLEDGE of the mechanism of the human frame is necessary to the surgeon in the practice of his profession. The medical practitioner relies mainly upon his clinical experience, and his acquaintance with physiology, pathology, and therapeutics. Both are aided by precise results such as may be obtained from the sciences of chemistry and bacteriology, the use of the microscope, and familiarity with all bodily functions in a state of health. The result of injuries and of disordered conditions of every kind, such as are appreciable by the senses, may be compared with normal standards that are known and recognized. By induction and deduction symptoms may come to aid in arriving at unerring conclusions. Those abnormal conditions and manifestations usually embraced under the terms "insanity" and

"idiocy," or occurring as complications of bodily disease, are better studied and more intelligently understood when aided by some knowledge of the operations of the faculties of the mind in its normal action. The study of disordered mental manifestations is best approached from the psychical side. The medical treatment and management require the application of principles such as govern the physician in the ordinary course of his practice. To his knowledge of the principles and practice of his profession should be added a familiarity with the springs of human actions, tact, and the quality of intelligent sympathy for distress.

Of matter one knows little except of its properties. As has been said of it that it has form, color, and density, so of the mind the definition may be accepted that it is that in man which thinks, perceives, feels, and acts. The intellectual faculties enable us to form judgments and conclusions; the senses furnish perception, the emotions, the feelings; and the will acts or executes. This is but an analysis of ordinary mental operations, or an attempt to classify the variable manifestations of mind. We can form no conception of that essence called the human mind. We know nothing of it except of its manifestations which may be

classified. It has been called a force—a psychic force—or a form of energy. Beyond is a veil that we cannot hope to penetrate. Self-consciousness alone furnishes sufficient evidence of the existence of mind, which is as good an indication of its reality as we can have of tangible matter. The brain is the seat of the mind, but of the bond between the material substance of the brain and the mind, and between the mind and the soul, we know absolutely nothing. Neither the earlier mental philosophers nor modern psychologists have as yet attempted to furnish the measure of the qualities that make a sane mental organization. The so-called advances in psychology are as yet but interesting physical experiments, or minute analyses and descriptions of mental processes. Certainly, it should not be the reproach of science if it be not given to man, with his mundane qualities, to comprehend the mysteries of the Creator.

By general agreement some of the operations and manifestations of mind are called faculties. In a normal development certain mental properties co-operate to form what has been called the intellectual or reasoning faculty. This faculty includes perception, attention,

memory, and the power of comparison. Perception is that knowledge of a sensation of an external object transmitted by any one of the special senses. A sensation impressed upon the retina is transmitted to the sensorium, and we say the mind perceives or takes cognizance of the sensation. Thus through the avenues of all the senses the mind receives sensations and takes cognizance of external things, which are as imprints upon the sensitive plate of the photographer, ready for present and future use.

As an aid to consciousness there is that quality which has been called attention, or the power of concentration, by means of which imprints become fixed and ideas take definite form. It is largely acquired and developed by exercise and mental discipline. An overworked person will sometimes say the mind does not act, by which it may be understood that the ability to apply the faculty of attention and selection is in abeyance or is impaired.

Having an intimate relation to the faculty of attention is that of memory, or the power to treasure and recall perceptions and sensations that have occurred, as occasion requires their use. Of all mental endowments, none conduce more to success than well-trained powers of attention and memory. Memory of early events

is more vivid because the passions and emotions are more active at that period, but as life advances the interest in current events is not so intense. Even in middle life persons sometimes have a fear that mental failure is approaching because of their inability to recall at pleasure what they desire. The supposed failure in these cases may be more apparent than real, and may arise from lack of precision in the power of attention, resulting from a multiplication and diffuseness of mental operations. Comparison is the power of making a selection of those elements essential to the formation of a judgment or conclusion—the ability to select those impressions which memory can reproduce from the storehouse, and bring them to bear upon any question.

The emotions constitute another division of the human faculties. Among them may be named self-love, fear, anger, and the affections. In the normal condition their possession is regarded as important to the preservation and propagation of the species and to man's happiness. In his lowest state he is controlled by passions similar to the brute creation, yet in his elevated state, through the influence of civilization, more convolutions have been added to his brain, and he has become more highly organized

and complex, with his passions more subdued and refined. It is true that the seed of some improved plants and delicious fruits may be propagated, and that they will reproduce their species, yet the product will be deteriorated and worthless. So we sometimes witness an arrested development or an unaccountable deterioration of members of a family, and even of communities, to a savage state in which the lowest passions have sway.

The emotions and passions in their several operations have much to do with the formation of character and the elevation of society. Under proper control and guidance they stimulate men to cultivate good repute, to be zealous in all reasonable desires, to seek the means of happiness, and to strengthen the instincts of self-preservation. Under the influence of fear men are restrained from the commission of violent acts against public order. In periods of momentary dread, peril, and frenzy cowards have been known to commit acts of violence of a criminal nature while in states of which they have been seemingly unconscious. The affections lead men to seek the sole possession of some object, tend to social order, and are the strongest incentives to the preservation of family life. The unbridled

exercise of the emotions and passions has changed the course of nations, brought misery upon communities, and incited to crimes and calamities.

A third division of the faculties of the human mind, for the purposes of this subject, is the will. While it has been doubted whether the will can be called an independent faculty—whether apart from the other faculties it has a separate existence and function, or would be manifested if there were no intellectual faculties or emotions—yet it manifests itself in actions, whether mental or physical, and in the execution of conclusions formed from a comparison of ideas and conceptions. The mind is excited to action by ideas and sensations, and certain movements are set in operation to accomplish a purpose. We speak of a man with a strong will as distinguished from one who is weak and vacillating; by which it is not to be understood that will differs essentially in different persons, but that from the storehouse of ideas an election is made from a larger range of the elements essential to clearer convictions, which one person will execute with more force and energy than another. The degree of will-power does much to constitute what in man is called character.

In the operations of the three divisions of the human mind, comprising the intellectual faculties, the emotions or feelings, and the will, there is an analogy to the functions of the afferent and efferent nerves of the excito-motor system. Sensations are conveyed to the sensorium, and an efferent force is exerted through the agency of the will. The higher afferent sensations—that which is observed of our environment, those received through the medium of all the senses—are conveyed to the sensorium and there compared with those previously received, while the conclusion and action are conveyed by the efferent part of the system. While it is unnecessary for the present purpose to do more than attempt to approximate classifications of mental manifestations, it may be stated that all the faculties so co-operate and are so intimately related that the mind is, in a sense, a unit. While motor centers have been located, ideational centers are not known and are only subjects of speculation.

Men differ in respect to their moral and mental development, about the various relations they hold to each other, and as to their political opinions and religious views. As there is no standard of religious belief, of political doctrine, or views of social life, so there

is no recognized standard of complete mental development with which comparisons can be made. Every individual has an order of development peculiar to himself, influenced by his heredity, education, and environment, and comes to have qualities that distinguish him from his fellows. In a state of mental health thoughts and actions tend to flow through some channel, so far as each individual is concerned. This order becomes fixed and is characteristic of the individual. When this established order of thought, feeling, and action changes as the result of disease, there is a departure from the usual or normal standard of mental health.

In this connection allusion should be made to certain physical characteristics of individuals and the relation that they seem to bear to mental peculiarities. In the early history of medicine the reciprocal influences that were supposed to exist between the body and the mind were noticed, and became the basis of a classification founded upon mental characteristics that seemed to accompany certain physical developments. Although the division of certain qualities of mind and body into so-called temperaments—the sanguineous, lymphatic, bilious, and nervous — may not be

strictly scientific, and may be the result partly of speculation, yet it is a recognition of the common observation that certain prominent mental qualities are usually found to be associated quite uniformly with physical constitutional development and conformations. As a rule they are inherited, and are transmitted from generation to generation in the same family until the vigor and force of the stock are deteriorated and expended; or the stock is re-invigorated by a cross and the introduction of new elements until the marked peculiarities are obliterated. An insurmountable difficulty seems to arise in establishing an exact pathology, or in explaining by any theory of cell-changes those cases of eccentricity transmitted through successive generations with increasing intensity, culminating in insanity; or to explain those cases of sudden and intense psychic and emotional disturbances which are on the border-line of insanity; or to furnish an explanation of those cases of gradual change of character that result from indulgence in temper and passion; or of those influences of natural scenery and environments which shape the mental development and modify the character of whole communities; or of physiognomonic expressions that indicate in individuals and families

the approach of, and liability to, the neuroses; and, lastly, of transmitted hereditary predisposition to insanity which the changes incident to approaching adult age and the menopause render active. It may be said of these cases and conditions that they bear the stigmata of physical and mental degeneration.

Mental and physical growth proceeds in accordance with an order of development that belongs to the species, and which, while applicable to all alike, is subject to the dominating influence of heredity, human laws, social conditions, education, and religion. Under those various and varying conditions fixed and established qualities of mind, due to psychic forces operating along uniform lines or channels, come to mark and determine the characteristics of every individual. Each possesses similar intellectual faculties, sensuous functions, emotions, passions, and will-power, differing only in development, capacity, and degree. In a normal state there is consistency of development, harmony, and individualism, with freedom to use the faculties of the mind to the measure of a capacity bounded and defined by certain limits. In a disordered mental state the intellectual faculties form erroneous judgments, sensations are at fault, the emotions and passions may be ex-

cessive, perverted, weakened, or ungovernable, and the will-power in abeyance. The disor dered manifestations of these faculties give rise to the delusions, hallucinations, illusions, and incongruous actions of the insane. They constitute the symptoms of the conditions called insanity. A knowledge of the several faculties of the human mind in its normal state best fits the physician for approaching the study of its abnormal manifestations, whether connected with insanity or with closely-allied neuroses.

To determine the existence of insanity, as there is no recognized standard of soundness with which a comparison can be made, the mental state when it is under consideration must be compared with what it was when in a normal condition, so far as that can be ascertained. From observation and experience a fair estimate may usually be made of those qualities of mind which together go to form for each person a distinct normal character and standard of development, as well as of any changes that may have occurred or of departures from the usual standard.

CHAPTER II.

IDIOCY; IMBECILITY.

Definition.—A person born without mental faculties or capacity is an idiot. Idiocy is a congenital condition due to arrested or abnormal development, prenatal conditions, disease, or accident. It is accompanied by physical defects, as short stature, deformity, irregular gait, or defective articulation. Many idiots show evidences of cerebral meningitis in infancy. An idiot does not become insane, though he may have psychical explosions, because the mental faculties are not sufficiently developed to pass into a state of disorder or disease. He is one who requires the consideration of, and who is both by legal fiction and in fact, an infant throughout the whole life-period. The terms idiocy and imbecility are frequently used as synonyms, but by general agreement it is an aid to regard both as meaning a congenital defect, differing rather in degree, as might be expressed by the words partial and complete. The term *imbecility* has been applied with great

convenience to partial or arrested development which begins to show itself early in life and before the age of puberty. The child may be well formed and the mental faculties seem to be developing in a normal direction, but when he reaches a period when new and enlarged relations are usually established, and an advance might be expected, he shows an incapacity to receive instruction, falls behind his fellows, has an ungovernable temper, is not amenable to discipline, is cruel to dumb and helpless animals, is devoid of affection, has no capacity for any business, and may have even criminal instincts from an apparent lack of all normal faculties. Though he may reach an adult age, yet it comes to appear that he has not advanced beyond the capacity of a child of six or eight years. Idiocy and imbecility, which imply deficiency of mind, are regarded as instances of congenital defect. They are not, however, to be confounded with or brought within the category of insanity, which is rather recognized as a disease or disorder of the mind. An imbecile may have an attack of insanity, depending on the degree of mental development. The several classes are treated and cared for in institutions that are quite unlike, although in a legal sense the insane, idiots, and

PLATE I.

1. IMBECILE—MEDIUM GRADE.
2. IMBECILE—HIGH GRADE.
3. IDIOT—LOW GRADE.
4. IDIOT—EXCITABLE.

imbeciles are regarded as persons of unsound mind.

A child may grow to manhood and then show an irregular development, as a strong will and vacillating judgment; a vigorous understanding and be destitute of affection, have peculiarities of dress and manner, a disposition to walk in certain fixed directions, to touch persons and places in passing, to talk aloud when alone and gesticulate in periods of abstraction, or to assume unusual modes of dress and living. Channels of thought are formed which become habits from frequent repetition. None of these peculiarities amount to insanity, but may be strictly in the line of a normal growth and development. They are the characteristics that normally belong to some individuals, and are regarded as *eccentricities*, but do not in themselves amount to a state of insanity, and need not have consideration here further than to place them properly as indicating a degree of degeneration inherited or acquired.

CHAPTER III.

INSANITY DEFINED.

An attempt to formulate a definition of insanity may seem as futile as an effort to define a sane mind; yet writers have made the endeavor, in order to limit the range of the subject, to facilitate discussion by agreement about terms that have an understood meaning, and to aid medico-legal proceedings. Many refrain from giving any definition, but announce a classification of forms of insanity, and furnish extended descriptions of each.

Esquirol has defined insanity to be "*a cerebral affection, ordinarily chronic, without fever, characterized by disorders of the sensibility, of the intelligence, and of the will.*"

Maudsley declares "*insanity to consist in a morbid derangement, generally chronic, of the supreme cerebral centers—the gray matter of the cerebral convolutions—giving rise to perverted feeling, defective or erroneous ideation, and discordant conduct, conjointly or separately, and more or less incapacitating the individual for his due social relations.*"

According to Conolly, "*insanity is the impairment of any one or more of the faculties of the mind, accompanied with, or inducing, a defect in the comparing faculty.*"

Regis (1891), without pretending to give an accurate definition of insanity, observes that "*it is a special disease, is a form of alienation characterized by the accidental, unconscious, and more or less permanent disturbance of the reason.*"

Bucknill regards insanity as "*a condition of the mind in which a false action of conception or judgment, a defective power of the will, or an uncontrollable violence of the emotions and will, have separately and conjointly been produced by disease.*"

The courts are not disposed to accept professional definitions of insanity, but prefer to furnish an interpretation of the legal relations of the insane. Blackstone has said that "*a lunatic, non compos mentis, is one who hath had understanding, but by disease, grief, or other accident hath lost the use of his reason.*"

Insanity may also be defined to be "*that mental condition characterized by a prolonged change in the usual manner of thinking, acting, and feeling—the result of disease or mental degeneration.*"

The last definition is to be commended, as

it is in accordance with medical requirements in the sense that it presupposes the existence of disease, and is readily comprehended by a court and jury.

To establish the existence of insanity it is essential to determine that there has been a departure from the ordinary and usual way of thinking and acting—that it is a prolonged change, and that it is the result or accompaniment of disease or mental degeneration. This definition, with its limitations, excludes from the category of insanity cases of sudden unconsciousness, as from injuries or shocks, delirium of fever, abuse of alcohol and drugs. Cases of this character are not to be certified for admission to the hospitals for the insane, for detention and treatment. The delirium of bodily disease is purposely excluded from the definition. While an insane person may have delirium from toxic agencies, as a temporary accompaniment of some physical disease—as, for instance, a fever—consisting mainly of hallucinations of the senses, of brief duration, the definition is intended to place the latter mental symptoms rather among the complications of bodily disease. So also must be excluded those so-called popular delusions—as spiritualism and the

belief in false religions—which are not due to the existence of disease. Persons addicted to the habitual use of alcoholic liquors or drugs are not included as coming within the scope of the definitions applicable to insanity and the insane. Such use is rather a habit than a disease, and, though seclusion may prove beneficial, and prolonged indulgence may even result in insanity, cases of the opium-habit or alcohol-habit cannot be certified to be insane, nor legally detained in a hospital, as our lunacy-laws are usually construed. It is a frequently recurring question that the judges are called upon to meet, in the discharge of their duties, how far the term insanity shall be used to exonerate and excuse the acts of persons who habitually allow their passions to have unbridled sway, or those who indulge in theoretic vagaries until their conduct is a constant menace to human life and even the fabric of society. The definitions of insanity that have been furnished are not intended to include nor wholly to relieve from responsibility those who commit acts that accompany sudden explosions of anger, or those instances of social and fanatical speculation that render their promoters incompatible with the safety of society and with public order.

CHAPTER IV.

DEFINITION OF TERMS.

Delusion; Hallucination; Illusion.

Delusions.—The insane, as a rule, act from motives very much the same as those that govern and influence the sane. They may show anger, resentment, and pleasure, but they are influenced and impelled to action by erroneous beliefs and ideas. The incorrect judgments of the insane are called delusions. *A delusion is a false, perverted, and, in a medical sense, an abnormal belief.* As an illustration, a person may believe that he is full, or that his digestive functions will not act again, and persistently refuse to take food; that his head is enveloped in a shield, and to get rid of the encumbrance may beat his head against a wall; that he is the Almighty; that he is the oldest person in the world, having been well acquainted with Adam and Eve; that he has great wealth, although surrounded by the appearances of wretched poverty. Erroneous opinions of the sane are not to be confounded

with delusions of the insane, as they are constantly and easily corrected by ordinary experience and knowledge. No argument or persuasion can, as a rule, correct the false beliefs of the insane. Delusions are almost universally present in acute forms of insanity, and are easily recognized. When the disease develops slowly it is difficult to detect their nature, and they become apparent only by long and careful observation of the patient in all his varied relations to his occupation, to the community in which he lives, and to his family. Delusions of the insane are both objective and subjective. They are evolved from the external and internal sources of consciousness, as well as from an incongruous association of stored ideas. They are evolved from, and are symptoms of, disorder of the intellectual and moral faculties. The existence of a single delusion that in itself may be harmless, if that delusion comprises the whole case, and does not materially change the relations of the person to his various interests, is not a sufficient warrant for legal lunacy-proceedings or for advising admission to a hospital. If, however, there exists evidence of physical disease, together with delusions, or a delusion that dominates or controls the patient, then he is

insane. If he commits a criminal act as the direct consequence of a delusion, in that case he is irresponsible in a legal sense. Out of this an attempt has been made by the legal profession to recognize a distinction between what is called "medical" and "legal" insanity, which physicians are not disposed to accept, while admitting that there may be a modified degree of mental capacity and responsibility.

Hallucinations are false perceptions. Ordinarily, if an object is actually present, or any one of the special senses is excited, an afferent sensation is conveyed to the sensorium. If the mind takes cognizance of the sensation, the result is a perception. If there is an act of perception when no object is near, it is without foundation and is unreal or false. Hallucinations are sensory symptoms of insanity as well as of delirium. The patient seems to hear voices of persons and see objects that are not present. Everything may be tinged a crimson color. Every pane of glass in a window may have a face in it, and the faces and forms of relatives long deceased may seem to appear. A person with hallucinations is noticed standing in one position in an abstracted manner, as one absorbed in deep contemplation, or gesticulating and conducting in an

audible tone a conversation which to a spectator may seem somewhat one-sided. Another manifestation of sense-disturbance is the statement occasionally made by patients that someone is reading their thoughts, and the patient claims that what he reads or what is passing through his mind is being repeated in an audible voice. So annoying is this persecution through days and nights that sleep and repose are destroyed. The patient may attempt again and again to read, and is observed to lay aside the book and walk away. Men and women complain that wicked, obscene, and profane expressions are constantly addressed to them, and they are persecuted—tormented to do terrible things by some unseen agency. It is common with the insane suffering from hallucinations of hearing to assert that they have communication with spirits, that they are in connection with all parts of the world by telegraphic wires, and that they receive messages by telephone to which they make replies.

The senses of taste, smell, and feeling are all liable to perversion, but hallucinations of these senses are not as frequent as those of hearing and sight. The natural taste is changed so that food may seem to be compounded of disgusting substances, putrid or poisoned, and is

persistently refused. One patient insisted that the room was filled with smoke and bad odors; another held a handkerchief to her face or waved it to dispel the imaginary vapor of chloroform which she said enveloped her.

Individuals suffering from hallucinations of hearing may have a feeling that they are literally pursued. Their peace of mind is destroyed, their judgment and self-control are gradually undermined, and delusions of persecutions come to be formed. Criminal acts are performed under the influence of hallucinations of hearing and sight; suicides and homicides have been committed under the influence of commands from a higher power; and assaults occur, in and out of hospitals, incited by imaginary and invisible agencies. The sense of feeling is disordered, producing itching or uncomfortable sensations of heat and cold; clothing is burdensome, explaining the tendency to remove it and to denude the person. All of the senses may be involved in the same case. Individuals laboring under hallucinations by the influence of association often fix upon persons who are nearest to them as the authors of their persecution. Mysterious assaults and even homicides are explainable sometimes on the hypothesis that they are committed under these circum-

stances. The experienced observer comes to recognize a characteristic physiognomy of these cases—an appearance of abstraction and fixed attention—which affords a clue to the nature of the mental disorder. Visual and auditory hallucinations are uniformly present in delirium accompanying extreme physical exhaustion, disease, and toxic conditions of the blood. The wandering, furtive movements of the eye, the seeming incoherent conversation—quite like that which may be heard at one end of a telephone line—are indications of hallucinations of both sight and hearing.

The question will arise as to what extent auditory and visual hallucinations may exist before a physician is warranted in making a certificate of insanity. It is true that many suffer through the greater part of their lives from some disturbances of this nature which prove to be harmless. They seem to hear the sound of bells, hear reports, and see familiar faces. These are not the actions of a normal brain, yet they do not interfere with the usual business or other relations of a patient who recognizes the sensory disturbance and whose better judgment and self-control do not permit it to influence him. But if hallucinations exist to a degree to induce beliefs that have no better

foundation, and which influence the actions of the individual, then he is insane, although the mental disorder may be partial or general.

Any explanation of hallucinations must be regarded as largely speculative. Why extreme nervous prostration, the exhaustion that follows alcoholic excess, indulgence in the opium-habit, or the presence in the circulation of toxic agencies should produce not only hallucinations but such hallucinations as are characteristic of the various causes that produce them, is beyond explanation. It may be said of all acute insanities, and of delirium attended with hallucinations, that there is a defective state of nutrition of the brain due to the quantity or quality of the blood circulating within it, or to some degree of cell-destruction. The phenomena of hallucinations are subjective: there is no object present to excite them. They are not instances of mistaken identity, as they have an internal origin. It has been said that, like dreams, they are but reproductions of former actual sensations which memory recalls in incongruous, disorderly association, as it is known that the blind and deaf are subject to them. They may occur only to those who have at one time possessed their senses, and subsequently lost the use of one or another; but the fact may have a bearing on

the hypothesis that memory performs an unconscious function in the reproduction of former sensations or images.

Observers agree that hallucinations of hearing are more frequent than visual disturbances, although some have stated that in acute insanity the reverse is true. Hallucinations of hearing appearing early in the attack of insanity and persisting until the chronic stage, or appearing in a case that begins insidiously, are looked upon as a prognostic sign of unfavorable import. New habits of thought are formed in consequence, which become gradually changed into permanent channels that cannot be easily broken up.

Illusions.—Another symptom of insanity is the occasional presence of a class of false beliefs closely allied to disordered sensations, and to which the term illusions has been applied. Illusions are the distortions of actual objects by the senses. The identity of persons and things is mistaken. A stranger may be addressed by the name of a familiar friend or as some distinguished character, and things stationary and moving are converted in the mind of the person into unreal objects. Hallucinations of the senses are subjective, while illusions have an objective origin.

CHAPTER V.

ACTIONS OF THE INSANE.

In a normal mental state regular currents or channels of thought are formed. There also exists some law of association or relation of ideas, to be explained on the hypothesis of suggestion or otherwise, in accordance with which there appears to be some regular order of succession. It may be said of delusions, hallucinations, and illusions, that, usurping the places of other ideas, they also make new channels, and operate upon individuals so as to excite actions. While under control they do not perceptibly influence the conduct; but as a case progresses and becomes acute, the usual law of association of ideas is interrupted and disconnected, and disassociated ideas and sentences appear with no more order than words selected at random from a dictionary. The mind seems to act, as it were, without co-ordination; actions and words are often unintelligible and cannot be readily explained.

It is sometimes possible to extricate the na-

ture of the delusions and delusive ideas of the insane from their confused, apparently disconnected mass of thoughts and actions, and obtain some explanation of their conduct. The acts of the insane when they are subjected to analysis often furnish a clue to the motives and delusions that exist in the mind of the patient, so that in the seeming disorder there will still appear some semblance of order. The symptoms, habits, actions, and dress are to be carefully observed, so that some inference or conclusion may be reached. A patient presents himself with uncut and unkempt hair and beard, together with other symptoms, and it may be elicited on examination that in the exaltation of mania he believes himself to be the Christ. Another, charged with appropriating property not his own, asserts that he has taken only what was his own, and it subsequently appears that he was in an early stage of the disease known as paresis. Clothing is persistently stripped from the person, because it is burdensome, from a sensation of great heat, a condition of hyperesthesia of the skin, or a hallucination of the sense of smell. A doctor stood day after day retaining his urine, lest its discharge might endanger the building and human life. Glass is broken and railroad trains are wrecked

for the gratification afforded by the noise and crash. Indecent acts are perpetrated as the result of inordinate erotic propensities. The tendency to assume a strange and grotesque costume may exist for the purpose of attracting attention, and is one of the manifestations of an exaggerated self-conceit. The sudden disposition to enter upon a course of extravagance, to indulge in animal appetites, to make unusual purchases, may arise from delusions of wealth and expected riches, as an opposite habit of penurious living, abstinence from food, an unwillingness to procure necessary clothing, may come from a fear of loss of property and actual penury.

Food is refused under a delusion that it is poisoned or medicated or that the functions of digestion are arrested. Food is often taken, on the other hand, in large quantities under a belief that each meal will be the last. A patient may plug his ears and avert the gaze to avoid annoyances from hallucinations.

Changes in the expression of the face, in the manner of talking, gesticulating, and walking, are among the characteristics of insanity. The physiognomy is to a certain extent an index of the nature of prevalent thoughts and emotions while in a state of health; so delusions of fear

as well, such as provoke to sadness, anger, and aggression, have their typical expression. The face may flush with anger or grow pale with emotion. On the other hand, as the mental functions are enfeebled in the course of continued deterioration, the characteristics of a positive expression give place to dulness and the facial lines are obliterated. The expression of the eyes participates in the prevailing emotions and thoughts, and furnishes often some indication even of their nature and tendency.

Emotional disturbances—as laughing immoderately or weeping without sufficient cause, a disposition to exaggerate the import of trifling occurrences, indicating a weakness of judgment, alienation of the affections without apparent reason, impairment of the powers of attention and memory, introspection, brooding, erotic propensities—when they exist for a considerable period of time and to an extent sufficient to influence the conduct and impair self-control, are among the symptoms of incipient insanity.

An exaggeration of the usual and normal characteristics of an individual, without delusions or hallucinations, may constitute the only symptom of insanity. A person ordinarily moderately talkative may become even garrulous; one inclined to despondency may be

depressed; liberality may be replaced by reckless extragavance; ungovernable passion may take the place of irritability. All may be marked departures from the ordinary character and habit.

The delusions of the insane lead to the commission of suicidal and homicidal and other outrageous acts. Such crimes are among the earlier manifestations to attract attention, for the reason, commonly, that the case has not been intelligently or closely observed. A physician of a hospital was assassinated by a patient who entertained a delusion that the doctor was the agent of conspirators employed to destroy life by the slow administration of drugs. He justified the act on the plea that he was impelled by motives of self-defence and self-preservation.

Insanity is manifested by prolonged insomnia, refusal to take food, melancholy, stupor, agitation; sometimes by an opposite condition characterized by excitement, exaltation of the emotions with great motor disturbance, harangues and talking in a loud tone; also by the terminal stage of fixed delusions, failure of the mental faculties, and gradual decline of the vital powers.

The actions of the insane when attentively observed may be ascribed to the existence of delusions or disorders of the intellectual powers,

to hallucinations and illusions or disturbances of the sensory functions, to the abnormal activity of the emotions, or to exaggerations of the normal characteristics of the individual which amount solely to intense functional activity.

The personal appearance, dress, and mode of living, the appearance of the apartments, may furnish some indication of the mental condition of the insane. A fulness of the vessels of the eyes may suggest the state of the circulation within the cranium. Contracted pupils and insensibility to light, or enlargement of one pupil as compared with its opposite, are due to paralysis of the circular fibers of the iris, and are symptoms observed in a large proportion of cases of paresis. Enlarged pupils are among the indications of exhaustion of nerve-force. A furtive, glancing, wandering expression of the eyes in a case of melancholia or mania is a warning of danger of suicidal, homicidal, or some kind of psychic explosion. The appearance of the skin shows the state of the general circulation. In conditions of nervous exhaustion associated with insanity the skin may be soft, relaxed, and moist; dry, hard, and shrunken in advanced stages of melancholia; or, as in cases of mental hebetude and dementia, the

extremities may be cold and livid—in either case an indication of impairment of the function of the vaso-motor system.

If the patient is competent to express his feeling correctly, he may complain of pain in the head—a sense of fulness or of pressure which is sometimes definitely located at the vertex, in the frontal or occipital region, or along the course of the longitudinal sinus. It may quite as frequently be inferred that it exists by noticing that the patient manifests discomfort by rubbing or pressing the head, causing the hair to be pushed back or upward or even rubbed off in patches by friction. The uneasiness and unrest of the melancholiac are manifestations of an emotional agitation which leads the patient to pick at the face or finger-nails, to walk to and fro, or to rub the hands and chin until the skin is abraded. The facial expression is regarded as an outward manifestation of mental activity or sluggishness, as well as even the nature of the dominating ideas. The muscles of the face of the insane may display the intensity of internal emotions, as in acute maniacal excitement; sadness or melancholy, as in melancholia. There may be inco-ordination of muscular movements arising from an irregular, interrupted transmission of nervous force, as in

paresis or spinal degeneration; or the characteristic lines of the face may fade and be replaced by a stolid and vacant expression. In response to a request for an examination the tongue may be protruded suddenly and as the result of an effort, and show in its fine fibrillar movements the evidence of interruption of nervous force along the motor tracts. The impairment of the functions of the lips and tongue in articulation furnishes an explanation of the change in speech that is recognized as one of the early characteristic symptoms of paresis, and bears a close resemblance to the thickness of the tongue commonly noticed in persons under the influence of narcotic drugs or alcohol. In the early stage of insanity there is a diminution in the usual body-weight, and in eighty per cent. of the cases admitted to hospitals there is some evidence of impaired health; so that at this stage good health and the normal weight are exceptions to the rule of experience. Not only do the mental manifestations often plainly show the condition of the patient, but the physical signs of disease also furnish valuable clues in making a diagnosis.

CHAPTER VI.

CLASSIFICATION; NOMENCLATURE.

THE actions, manner, and uniformly prevalent character of the mental manifestations, taken in connection with the physical condition of the patient, are the symptoms to guide in determining the existence and form of insanity. There is no anatomic knowledge that can form the groundwork of a classification of insanity. Mental pathology is also partly a subject of speculation. The symptoms and actions which have been alluded to are the only tangible evidences of the existence of mental disorder in the majority of cases, and by general assent they constitute the basis of every nomenclature in use. No universally accepted classification has yet been presented, and, as every writer on insanity is an authority to the extent only to which his views are in accord with uniform experience, there has been felt a freedom to indulge in speculation which is sometimes confusing. It is also to be noticed that, while authorities are disposed to be critical of the classification of others, they are none the less

disposed to venture upon attempts in the same line. A nomenclature may be of great aid in scientific research if it conveys a meaning in which all engaged in similar investigations acquiesce. If, however, it does not stand for the results of extended observation and general experience, it is misleading to the student and even erroneous, often representing rather the aspirations of science, stilted with terms derived from the dictionaries of dead languages. The terms most commonly used by alienists convey a meaning quite as well understood, and have a more rational application than those applied to ordinary bodily diseases by the general practitioner.

The names applied to mental disorders must be understood to denote only the presence, for the time being, of prominent symptoms, and are not to be considered as recognizing distinct diseases or entities. Pinel recognized four forms of insanity—viz.: Mania, Melancholia, Dementia, and Idiocy. Esquirol, his pupil, adopted five forms, introducing the term monomania, and making a distinction between idiocy and dementia. Out of these divisions as a basis have since been evolved other classifications. The Medico-Psychological Association of Great Britain has adopted the following divisions,

which are in general use in the preparation of the statistical tables of the asylums of that country:

1. Congenital or infantile mental deficiency;
   (*a*) With epilepsy;
   (*b*) Without epilepsy;
2. Epilepsy (acquired);
3. General paralysis of the insane (paresis);
4. Mania—recent, chronic, recurrent, *a potu*, puerperal, senile;
5. Melancholia—recent, recurrent, puerperal, senile;
6. Dementia — primary, secondary, senile, organic;
7. Delusional insanity;
8. Moral insanity.

An attempt was made in 1886 by American alienists to bring about some uniformity of classification and statistics by the adoption of the foregoing varieties, with the exception of the form "moral insanity," and the addition of "toxic insanity." At the Congress of Mental Medicine in Antwerp, in 1885, an attempt was made with the same object; and at the Paris Congress of 1889 a classification was adopted which is both comprehensive and in strict accord with experience;

1. Mania (comprising acute delirious mania);

2. Melancholia;
3. Periodic insanity;
4. Progressive systematic insanity;
5. Dementia;
6. Organic and senile dementia;
7. General paralysis;
8. Insane neurosis (hysteria, epilepsy, hypochondriasis, etc.);
9. Toxic insanity;
10. Moral and impulsive insanity;
11. Idiocy.

All of the classifications attempted have as their basis the division first announced by Pinel.

A division or classification may also be made based on the supposed causes or etiology of insanity. The first may include all of those cases that arise from a predisposition to insanity that is transmitted by inheritance—the traits that descend with increasing intensity in family lines; unequal development of faculties that appears during adolescence; eccentricities that pass beyond the border-line that lies between mental soundness and unsoundness; cases due to exaggeration of personal characteristics which are the basis and genesis of delusions; those resulting from degenerations following endarteritis, atheroma, syphilis, tumors, meningitis, and the trophic changes attending old age.

A second division may comprise those cases of insanity resulting from neurasthenia, deficiency in the quantity and quality of the blood sent to the brain, disordered functions of bodily organs, malarial cachexia and fevers, exhausting excesses, toxic agencies, traumatism, shock, etc.

A classification of insanity according to the supposed causes is helpful not only for the purposes of diagnosis but for prognosis and treatment. The first division embraces mainly those cases that develop gradually, that have their origin in some constitutional deterioration or physical degeneration, and, it may be added, that generally do not recover. The second class is intended to include the cases that originate from those functional disturbances that attend ill-health of some kind, which under favorable conditions make a good recovery. While the physical conditions of the two classes may differ, and have even a different origin, the mental symptoms are similar; that is to say, the melancholia or mania arising from any of the causes named in either class will have similar features.

A nomenclature may be confusing, misleading, and even a hinderance to comparison of results and of progress. It is desirable for these reasons, in the present state of our

knowledge, to avoid a multiplication of new terms, which, while they may serve to show the presence of prominent or controlling delusions and characteristics, do not indicate for that reason alone distinct forms of disease. For all the purposes of the general practitioner a simple classification, with a few subdivisions, which contemplates the arrangement of groups of cases having similar characteristic types and mental symptoms under one of the commonly used terms—melancholia, mania, dementia, and paresis—answers every ordinary requirement, and is also in accord with and based upon recognized psychic manifestations of the human mind in its normal state. The time has not yet arrived when a classification can be based on the pathologic conditions of the insane, because too little is known. Observation, experience, and the results of treatment lead to the conclusion that all insanities have an origin in physical changes in the nervous mass, mental and physical degenerations, or in a deficiency of those nutritive processes that sustain the functions of the nervous centers. "It may be right to assume that morbid phenomena are invariably associated with organic change, but this organic change is not always of a nature to persist after death." "Cases of so-called

functional disturbance or disease are instances of the interruption, suspension, or impairment of vital force, in which the pathologic state exists during life, but disappears when life is extinct, and leaves no trace behind."

CHAPTER VII.

MELANCHOLIA.

(*a*) Simple Melancholia Without Delusions.

MELANCHOLIA is a form of insanity characterized by prolonged and profound mental depression. Many persons are at times conscious of some depression of spirits, which may be a reaction after a period of excitement and exhaustion, which passes away after a temporary duration. Such instances are examples of psychic disturbances that arise from unexplainable functional states of the brain, or they may be dependent upon toxic or other agencies in the circulation that affect the nutrition of the nervous centers or pervert mental functions. As they are corrected the gloom and weight of depression are lifted and disappear.

It is proper to make a distinction, and in many cases to draw a line of demarcation, between melancholia and hypochondria. The melancholiac and the hypochondriac experience depression and are sad and gloomy; but one may be insane, and the other does not come

within the category. The depression of the melancholiac is mainly mental, and relates to subjects having a relation to the mind of the patient, while that of hypochondria relates mainly to supposed bodily conditions. The hypochondriac may be worried about his head—he may say it is "numb;" that he is destitute of feeling; he looks at his face, his tongue, and his body, and seems to see evidences of disease; and, while in fact his general health is below its normal standard, he exaggerates every abnormal sensation. He carefully watches his excretions. Every strange feeling, as palpitation of the heart, indigestion, is a symptom of disease of the heart and stomach. Every organ may thus have its turn. Actual symptoms of functional disorder indicate to the sufferer organic changes. The physician is constantly changed, and the patient is a victim of quacks who impose upon him by a promise of relief by nostrums and excessive medication. The will-power is weakened, and the patient is listless, vacillating, and passive, until he is disposed to surrender to the dominating influence of a stronger character than his own. So long as the hypochondriac is not seriously affected in his relation to his business or his family affairs, and is not influenced and changed by actual

delusions, he cannot be considered insane. Hypochondria may, however, progress to melancholia. Sensory disturbances, hallucinations, and delusions may develop and change and influence the ordinary actions of the patient. At this stage the patient may be pronounced insane, and in some of the nomenclatures the term *hypochondriacal melancholia* has been used to designate this class of cases.

Depression, sadness, or gloom may be an early stage of an attack of mania or other form of mental disorder, or may follow an acute mania, or attend the pre-natal and puerperal state, the physical debility of fever, influenza, or other physical ailment that affects the nervous system. It is a stage too often overlooked in the study of a case. Profound depression may be a premonitory symptom of some form of mental disease, in the same sense that a chill, languor, and debility are often the precursory symptoms of physical disease. Cases that throughout present a history of prolonged depression may be classified under the term *simple melancholia without delusion.*

It is rather an exception to the rule of experience that a case of insanity is fully developed without a preceding stage of depression. It may be of brief or prolonged duration—of a

few days or several months. When a case is presented for examination or treatment, it is usual to find that the friends of the patient date the beginning of the attack to some outbreak or unusual acts of the patient. As a rule which is established by uniform experience in the largest proportion of cases, insanity is not a disease of sudden development, but has an incipient, formative, and prodromal stage. In all of the cases referred to in the second division of the classification made on page 56 in a preceding chapter, which is intended to include those cases that have an origin in the functional disturbances that attend ill-health, as well as the majority of the patients placed in the first division, a prodromal stage may on careful inquiry and examination be clearly developed. It will appear that the patient has perhaps a neurotic heredity, and unstable mental and physical organization, either acquired or inherited; that there have been worries attending the household, business affairs, or school studies; bodily sickness or frequent childbearing may have occurred. From some one of these experiences of human existence, singly or together, there has been produced a great tension or strain. These are only relative terms, so that what one person may seem to

bear without appreciable injury will be followed in another by ill-health, insomnia, loss of appetite, derangement of digestion, and disturbance of all the bodily functions. The blood on which the nutrition of the nervous mass depends is generally impoverished, and the circulation is imperfectly performed from a lack of nervous stimulus. While the bodily condition gradually approaches a state of invalidism, some marked mental changes are noticeable. The patient may become irritable, easily annoyed by trifling circumstances, forsake his accustomed haunts and friends; the usual occupation is burdensome; he complains of a weary, tired feeling, and, as a matter of fact, is tired and exhausted with slight mental or physical exertion. The gait is slow, the manner is languid, and the patient has a worn, exhausted appearance. He may complain of headache, a sense of pressure located at some definite portion of the head, indigestion, vomiting, or mental confusion.

Without rational or positive evidence of any organic disease, a stage of invalidism exists which may have been developing for months or years, consisting wholly of functional disorders. A clergyman who had suffered from many of the symptoms named above during the in-

cipiency of his disease aptly likened his condition to that of an engine in perfect order, but in which the means to generate the force to move it were lacking. The term neurasthenia has been given to those conditions of "nervous weakness often accompanied by perverted nervous disorders" (Billings). Its meaning is synonymous with the terms "nervous prostration" and "nervous exhaustion," in more common use. In 1868, Van Deusen published an essay on "A Form of Nervous Prostration (Neurasthenia) Culminating in Insanity." Beard in 1869, and Cowles in 1889, in his admirable memoir on "The Mechanism of Insanity," and others, have discussed the relation of neurasthenia to nervous diseases and the production of insanity. The views announced by these writers have been confirmed by extended observations of other observers. Nerve-strain may thus come from the whole range of those causes that operate upon either the mental or the physical system in such a manner as to exhaust strength, or vital force, more rapidly than recuperation takes place, so that the term nervous exhaustion is also properly used.

Various disorders of the nervous system are among the manifestations of neurasthenia, as neuralgia affecting several parts of the nervous

system; headache; vertigo; chorea; disorders of the circulation; palpitation of the heart; heart-weakness; angina; disorders of the digestive system, as dyspepsia; prolonged vomiting simulating gastric irritation; functional disorders of the liver and kidneys, from which may come failure to eliminate excrementitious matter; or a change in the chemistry of digestion. The relation of neurasthenia to many bodily diseases may yet be found to be more intimate than is now recognized. As a factor in the production of insanity, neurasthenia must be considered the most important. The largest proportion of hospital admissions received in an acute stage have a history of neurasthenia. It is fitly called the "soil" out of which insanity develops. It is too often the formative stage, or incipiency, of insanity. If with the prominent symptoms of nervous exhaustion there is depression of spirits together with a decided loss of weight, if there is emotional disturbance, it may be considered that the patient has received a serious warning.

Symptoms of Simple Melancholia.—The patient is observed to be sad and dejected. There is a sense of depression that cannot be explained, a vague fear of some impending trouble, an unaccountable gloom that over-

shadows every relation the patient may hold to his various interests. While he seems to have an appreciation of his condition, he cannot throw off the gloom that oppresses him. He loses his interest in his business, secludes himself from his friends and family, reviews his past life, reproaches himself for his past mistakes and shortcomings, and indulges in retrospection and forebodings. Life seems to him undesirable and unendurable. The simplest daily transactions are burdensome. The most trivial occurrences are distorted to the detriment of the patient. The slightest exactions or exertions, as rising, dressing, exercise, and taking food, are avoided. The gait is slow, the gaze is downcast, obstacles that seem impossible to remove are made to every suggestion for mental or bodily effort. Everything is opposed, nothing is proposed, and the patient desires to be left alone. If the history and temperament of the patient are known, many of these manifestations may be recognized as exaggerations of his normal characteristics. The conversation is deliberate and coherent, and the patient can, and often will, furnish a connected history of his own case. Thus far the emotions and feelings are principally affected, but the judgment may not be impaired

to such an extent that clearly-defined delusions are formed.

On a physical examination of a mild case of melancholia the facial expression is one of sadness and misery. The face may be pale and sallow. The eye has lost its accustomed expression. The appetite is not good, and food is taken sparingly. There is no fever—the temperature may even be subnormal. The tongue is pale or flabby and coated. The bowels are constipated, the urine is scanty and high-colored, the skin is dry and harsh, and the pulse is slow and soft. The pupils are quite susceptible, and perhaps are more than normally dilated. The patient is, and has been for a long time, probably, insomnious. The blood may show an excess of uric acid; the hemoglobin may be from twenty to forty per cent. below normal, and the blood-corpuscles one million or even two millions below the average of five millions per cubic millimeter. In women the function of menstruation is usually suspended. A decline in weight has probably been going on for several months, attracting little attention, and may amount to a loss of twenty, thirty, or forty pounds below the average; so that it should always be a subject of serious concern if mental depression is accom-

panied with decided loss of body-weight. The patient may complain of dull pain or a sense of fulness and pressure at the vertex or in the frontal or occipital region—a symptom arising from the stasis of the cerebral circulation, or fulness of the sinuses. The physical condition of the patient is usually below the average or normal standard. It may be noticed that not an organ of the body is performing its function in a normal manner. The case has all the aggravated symptoms of neurasthenia, or nervous exhaustion, but there is superadded a melancholy more or less profound.

It is usual to discover that there has been some strain from mental or physical overwork, such as comes from constant and prolonged application without change or rest; from exhaustion attending the puerperal state; or there is physical and nervous exhaustion from ill-health, sexual or other excesses, or the alcohol- or opium-habit. For all purposes of diagnosis, treatment, and management, it is a safe course to assume that from some cause, even if not apparent, there has been defective or altered nutrition of the brain or of some portion of it, or that damage has been done to its cellular organization.

An attack of simple melancholia may run a

course of several months without other mental disturbance than the presence of depressing ideas. The emotions are principally affected, but the intellectual faculties may not be involved to such an extent that clearly-defined delusions appear. The danger to be guarded against from the commencement and throughout the attack is suicide. The danger of such a tragic end at this stage may be even enhanced from the fact that the intellectual faculties are still intact, and a disposition to end a condition that seems intolerable is more likely to be executed than at a later stage, when the patient is likely to be more carefully guarded and the will-power is more or less impaired.

(*b*) **Melancholia with Delusions and Agitation.**

The symptoms which have been described as characterizing simple melancholia, if recovery does not take place, continue in a more intensified form in the further evolution of the disease. The intellectual faculties become involved, and clearly-defined delusions are formed. Sense-disturbances, as hallucinations and illusions, appear, of a character to excite apprehension in the mind of the patient. The depression also becomes more profound. Insomnia, restlessness, and motor excitement,

amounting to an agitation of the whole system, are all symptoms which may be looked for, resulting mainly from the nature of the delusions, which reach and undermine the very instincts of self-preservation. Throughout the attack there is an active suicidal tendency to contend with, requiring on the part of the physician and nurses the most vigilant and constant watchfulness. It is difficult or impossible to gain or hold the attention of the patient or to engage him in conversation about ordinary affairs. He is engrossed with his delusions. He may charge himself with the commission of great crimes and sins, for which he is to suffer and to be punished here and hereafter for endless ages, and he even seems to see his tormentors and their means of torture. He alleges that he has committed the unpardonable sin—sinned against the Holy Ghost—and has other delusions concerning his religious state. He may state that he and his family are bankrupt. While he is suicidal he may also be homicidal, under a conviction that greater suffering is awaiting himself and family, from which death would be a happy release, or under the influence of a delusion he may resort to some form of self-mutilation. A woman attempted to drown her grandchildren and kill

her daughter. She announced her intention to kill herself, and declared that they would all go together to heaven. The urine is retained, and attempts are made to restrain the action of the bowels. The patient wrings his hands and may moan and groan aloud, imploring mercy. He picks at his face and nails, rubs and scratches his hands, and denudes portions of the scalp by rubbing and pulling out single hairs. He shows an inability to keep quiet, moves about in a rhythmical manner or to and fro, gets into bed and out of it, and stands at night. The patient may throw off his clothing because it is burdensome, or on account of imaginary odors attaching to it, or because of hyperesthesia of the skin. The patient may refuse food because of a belief that he is satiated, that all digestive operations are arrested, or that he has no money with which food may be purchased, or because of hallucinations concerning the food, which to him may look like blood, or have a putrid odor and a loathsome taste. There is in some cases a degree of restlessness amounting to constant, uncontrollable motion or agitation—symptoms that have suggested the terminal affix used in connection with this form of melancholia. So incessant is the motor disturbance, so intense is the mental confusion, and so completely does the self-con-

trol seem to be suspended, that the term *frenzy* has been applied to the temporary paroxysms of excitement which sometimes supervene. To that condition of mental agony characterized by moaning and groaning, with or without self-accusations, the term psychalgia, or mind-pain, has been aptly suggested by Clouston. The patient may say, "I am in such dreadful agony it cannot be endured," yet a careful examination will fail to locate the seat of alleged pain or any possible source of bodily pain. In this condition of mind patients have made, and are in constant danger of, assaults upon themselves.

The facial expression is some indication of the controlling thoughts ordinarily, and especially is this true of melancholia. The lines of the face lose their mobility; the eyes betray suspicion, apprehension, and fear; the face has a shrunken expression, and may have a sallow or congested appearance. The extremities are cold, the bowels are torpid, and all of the secretions and functions seem to be imperfectly performed. It is common to notice that the patient rubs his head and pushes the hair back from the forehead; that he presses his hands upon the forehead, or rubs his face until it is abraded in spots; and that he pinches

the palms of the hands until they have a hard, calloused appearance.

It is not to be inferred that all of the symptoms named will appear in every case of melancholia. The extraordinary range and character of the delusions and disturbances—always depressing in character—have been mentioned, but a sufficient number of them do appear to determine the form of disease, and occasionally every one of them can be seen in a single case.

The mental pathology of the delusions of melancholia is a subject of speculation. To describe its evolution and its manifestations does not wholly explain its nature. The instinctive dreads incident to childhood, some of which are transmitted in families for generations, form the groundwork of many of the delusions of the insane. The traditions concerning demoniac possession, obsession, and the beliefs of early ages that insanity was not a disease, but was due to demons and evil spirits, finds its expression at the present day in the delusions of melancholiacs. Yet it is not uncommon for the expansive insanity nomenclature of our day to recognize every fear of the melancholiac which has some prominent place in his mind as a distinct form of disease. Even the term "religious melancholia" has been given a

place! One hundred years have passed since insanity began to be recognized as a disease, and not as a demoniacal possession, yet it is unquestionably true that this and other popular delusions have still an underlying force, and form the groundwork of many delusions of the insane. They will probably continue to do so for many generations to come.

Why neurasthenia or nervous exhaustion, or nervous and physical degeneration, should in one case be a cause of melancholia with depressing ideas, and in another exalted ideas and exhilaration, is in the present state of knowledge beyond human ken.

Duration and Prognosis.—The average duration of an attack of simple melancholia, passing into the stage of agitation, followed by recovery, varies from nine to twelve months. Such a result is to be accepted as satisfactory. If with the delusions there are observed in the progress of the case signs of dementia or mental failure, hallucinations, fixed delusions, with increasing indifference to surrounding objects, and greater difficulty in holding the attention, the prognosis is unfavorable. If the patient, on the other hand, shows some abatement of the motor disturbance, as of the degree of moaning and groaning; if an interest is manifested in the

environments, shown by a more erect position, gazing at surrounding objects, perhaps making some inquiries; and if a perceptible gain in weight is noticed from time to time, the prognosis becomes favorable.

(*c*) Melancholia with Delusions and Stupor.

A patient may pass from the condition of simple melancholia into a more aggravated form of the same disease, characterized by an appearance of stupor. The stuporous condition is mainly due to the domination of delusions and to a partial or complete suspension of will-power, which may amount to a cataleptoid state. When a patient is presented for examination suffering from stuporous melancholia, there is usually a long history of invalidism or of progressive depression, with a comparatively sudden transition to a stuporous condition. It is not to be understood that a patient necessarily passes first through an attack of melancholia with agitation before entering upon the stage under consideration, as both forms of disease appear to continue along the lines of their respective development till the end is reached in recovery or in terminal dementia. When a patient is presented for observation suffering from stuporous melancholia, the appearance will be in striking

contrast with the other forms of this disease. There will be offered a history of physical ill-health, insomnia, and worry, or possibly of some profound moral shock. The prodromal stage is not usually prolonged. The more aggravated mental symptoms may appear at an early stage. The patient is disposed to be absolutely silent, and the only response to questions may be monosyllabic. The eyes have a fixed and downcast appearance or are entirely closed. The facial muscles are immobile. The countenance is pale or sallow, and has a smooth, oleaginous appearance. A fixed and rigid position is maintained, and whether sitting or standing there is a reluctance to any change, accompanied often by actual resistance. There is an unwillingness to rise from the bed, to dress, or to undress. Food is not desired, or absolutely refused, and only administered by placing liquids in the mouth, or often by overcoming the resistance of the patient by the use of force. The bodily functions are performed unconsciously or are in a state of apparent suspense. Saliva is retained in the mouth, giving rise to an offensive odor. The tongue when examined seems flabby, enlarged, and shows indentations produced by pressure of the teeth. The pulse is not accelerated, and the

temperature is normal or subnormal. There is an apparent indifference to surroundings, to heat or cold or bodily comforts. Every effort to arouse the patient is without avail. There is an appearance of stupidity and stupor; but, as a matter of fact, the mind of the patient is intently engrossed with delusions which are of centric origin or wholly subjective. The intense will-power necessary to maintain fixed positions for long periods, the resistance offered to all changes proposed, the expression of the eyes, all indicate that the mind is intently absorbed in some controlling delusion. This condition might be confounded with the stupid state that characterizes mental enfeeblement or dementia, but the history of the case will usually furnish the right clue. It is important, however, to the proper treatment that a distinction be made. A person may pass rapidly into the stuporous stage of melancholia, but dementia, as will appear, is the usual terminal stage of several forms of mental disease of long standing. Patients have stated on recovery that while in this state they believed they were fragile, like glass, and would go to pieces if jarred or moved; that they were transformed into another state of existence, and could subsist without food; that the world had come to an end, and all

human operations were suspended. The patient believes he is incapable of making any exertion to extricate himself from some terrible fate awaiting him—conditions showing the power exerted by dominating delusions. An experience with some dreadful dream furnishes the nearest approach to what may be conceived to be the mental state of these wretched persons. The nature of the delusions of a stuporous melancholiac are usually unknown, and their consequent actions so uncertain that it is never safe to act upon any presumption. Some outbreak of violence directed against the patient himself, his attendants, or surrounding objects may occur at an unexpected time, so that it is not wholly safe to leave a patient unattended.

CHAPTER VIII.

TREATMENT AND MANAGEMENT OF MELANCHOLIA.

As the study of the mental symptoms of insanity in any of its forms is best approached from the psychical side, so the treatment of all recoverable cases is to be directed toward correcting and overcoming the physical conditions on which it usually depends, or to influencing the patient by means of environment, the impressions of which are conveyed to the sensorium through the senses. In the classification of causes of insanity various forms of ill-health appear as the most frequent in hospital reports. The term "general ill-health" was used and commonly assigned as a cause in hospital reports fifty years ago. In recent years the tendency of medical thought has been to ascribe to a nervous origin a much larger range of so-called bodily ailments than formerly, and allusion has already been made in these pages to the relation of neurasthenia as a cause to a number of diseases as well as to insanity. Ninety per cent. of the admissions

to the hospitals present the condition and appearance of some form of bodily ill-health. Seventy per cent. of the fresh cases admitted have a history of neurasthenia or nervous exhaustion, or of the nervous weakness which may come from the whole range of causes that operate upon both the mental and physical organism to exhaust vital force more rapidly than recuperation can be maintained.

In melancholia in its various forms the physician is called upon to treat a patient whose physical condition is probably much impaired; one who in the several stages of the disease is likely to be perverse and to resist, and who may or may not co-operate with any remedial measure that is proposed. He will probably object to the administration of food, and needs at every stage to be carefully guarded lest he commit suicide or do some violent act. It should at once be understood that there is no specific or known medicine that alone will cure insanity. The plain indications for medical treatment are to improve and sustain the general health by a course of generous living, to stimulate digestion and assimilation of food, and to improve the quality of the blood by the administration of tonics and the judicious use of hypnotics to produce sleep. As the change

and deterioration of the bodily health have been going on for many weeks or months, it should be plainly understood by the friends of the patient and by the physician that recovery, if such a result is to be reached, can hardly be expected under favorable circumstances within several months, and that during the whole of this period the patient may require medical advice, personal attendance, and direction as to the best environments.

One of the first questions to decide will be: Shall the patient be treated at home or elsewhere? Shall he travel, or be sent to a hospital? If the case is one of simple melancholia without delusions, and if the patient has such an appreciation of his condition that he is willing to follow advice and co-operate with the course of treatment proposed, he can be treated at home, if that is preferred. If possessed of ample means, a change of residence with a suitable companion should be urged as soon as improvement begins and is assured, so that the patient may be surrounded by such new environments as may prove a diversion as well as a stimulant. It is not to be understood from such a suggestion that continuous, wearisome journeying is to be advised, but restful changes, as in new places. It should be borne in mind that the

fatigue and worry attending travel and sight-seeing may only increase the melancholy and insomnia, as well as excite new apprehensions. There are often business perplexities and worries that center about a home, with which a patient is so identified that they cannot be wholly laid aside, so that any attempt at treatment there with a prospect of success is futile. In such a case change is the first step. Change may be one means of supplanting depressing thoughts and ideas. If the financial circumstances do not permit travel, change, or proper medical and other attendance, and if the patient will not co-operate with the physician or act in accordance with advice, then he may properly be certified to be a suitable person for admission to a hospital, in order that he may receive treatment that is essential to recovery. Too often travel, changes, social diversions, and novelties are mistaken experiments, undertaken at a serious risk of the expenditure of the little physical strength that is still held in reserve, as well as of the money savings of years. It may be here observed that while advice to travel is easily given as a solution of a perplexity as to what is really the best thing to do, it is often a most serious error to commit. To leave a comfortable home while the outlook is doubtful

as to whether the patient will improve or grow worse in the future, or when it is doubtful whether improvement has actually begun, is often to remove a patient from his customary medical and other attendance, with grave uncertainty whether in the midst of journeying the patient will be overtaken with some serious outbreak or complication. If, however, an improvement in a case has actually begun, and the patient is co-operative, no embarrassment from a medical standpoint need arise as to the course to pursue.

The treatment must have a psychic as well as a physical basis. Influences that have acted upon the patient injuriously must be removed, and the physician should have such an influence over the patient and such a professional standing that he will be implicitly obeyed. It is oftener the case that home, with all its surroundings and the presence of the family, is rather a source of annoyance and anxiety than a comfort. The daily surroundings, occupation, companionship, diversions, are a part of the psychic treatment. As the condition of the patient may be largely due to nervous exhaustion, it will naturally follow that mental rest and freedom from irritation and its causes must be an important element of the psychic treatment.

It is important to learn early in the case the normal weight of the patient, and to cause it to be taken from time to time. The information thus afforded may furnish a clue as to the course and probable results of the treatment. The state of the blood, the urine, and the digestive organs should be carefully examined. The latter are usually deranged and constipated to such a degree as to seriously interfere with a desire for food, and to retard its assimilation. The patient and nurse may state that evacuations of the bowels occur regularly, when the administration of an alterative cathartic followed by mild saline medicines will usually furnish abundant evidences of accumulations of fecal matter. From inattention, indifference, and the existence of delusions in relation to the usual bodily habits, the urine and contents of the bowels are voided irregularly or restrained. In hospital practice, and in private practice, when it is not quite clear what the previous treatment has been, it is the more judicious course to suspend for a brief period all medication, that the physician may observe the manifestations of the disease uncomplicated by the effects of drugs. Then a course of alimentation and medication may be commenced intelligently, as it is not unusual that the constipation and even the mental

condition have both been affected by the administration of hypnotic drugs. Whether the desire for food does or does not exist, the patient should take as much as can be digested. It is not necessary to wait until the tongue is free from the accumulation of vitiated secretions. Under the influence of an improvement of the nutrition and a liberal administration of food the tongue will often become clean and improvement begin.

There is usually a decided loss of weight in melancholia, amounting to twenty-five or thirty pounds, or even more. Although food may have been taken sparingly, the waste of tissue has gone on more rapidly than reparation has taken place. The desire for food does not exist, and it is refused partly for this reason, but more frequently on account of delusions concerning it. There may be a deliberate purpose to end life by abstaining from food; there may exist a delusion that normal bodily functions have ceased; or the patient may have suspicions that the food is poisoned, and that it is not what it is alleged to be. One patient, after recovery, stated that he had refused certain articles of food because all ordinary processes of the digestive organs were changed, and that under the new order of things articles taken into the

system would be actually absorbed and no excrementitious matter would remain.

The character and regularity of the evacuations should be a constant guide as to the quantity of food to be administered. The quantity of food taken ought to be sufficient not only to make good the current waste, which may go on rapidly, but, in addition, to restore the loss that has taken place. It is very important that the nurse keep a record for the guidance of the physician of all the articles of food taken every twenty-four hours. If solid food that requires mastication is refused, milk, animal broths, and fruits may be given. The insane make less objection to milk than other articles of food, and, if given with some regularity, it will liberally supplement the usual meals. Eggs broken in the presence of the patient, fruit with the skin unbroken, will often be taken when prepared food will be rejected because of delusions concerning it.

The nurse may, however, report that food is taken sparingly or that it is refused. It is not advisable to resort to force or mechanical means at once in order to introduce food into the stomach if the patient is not feeble, but to present it regularly and insist that it be taken. It is also a good plan to leave some articles of food within

reach of the patient, as he may be tempted to partake of it when not observed. Although the patient may neither converse nor respond to inquiries, and may look upon the physician and nurse with silent suspicion, it is important at every opportunity that the medical attendant reassure the patient that the food is free from drugs or medicine, urge the importance of proper sustenance, and patiently explain the necessity and wisdom of all the various measures adopted for the patient's restoration. In the midst of the agitation, and even in the stuporous stage of melancholia, it is important to explain to the patient that his troubles and worries have no foundation in fact, but are due to some disordered action of his mind. This may be reiterated again and again. It constantly occurs that some assuring word, a sympathetic look or manner frequently repeated, will find an encouraging lodgement in the patient's mind that will inspire hope. After two or three days' total abstention from food, if the strength visibly fails, it should then be administered, notwithstanding the resistance of the patient. A change of nurses in hospital practice will sometimes accomplish the result desired without force, as one person may have more tact than another, and delusions sometimes attach to one

person and not to another. A woman nurse will often induce one of the opposite sex to take food when others fail. Some patients will swallow liquid food if placed in the mouth, uttering a mild protest, while others require the introduction of a tube through the mouth; or a nasal tube may be used as a last resort. Perhaps, on a second trial, a display of the feeding-apparatus, with the preparations and presence of the assistants, may be sufficient to overcome the opposition of the patients. Some patients, after being fed for some time with a tube, acquire considerable expertness in evacuating the contents of the stomach by voluntary effort. Forced alimentation may be necessary during several weeks or months, and in one case was continued three years.

It is not advisable to withhold the administration of food until the system is supposed to be prepared for it, but to begin at once and continue it freely. As an illustration of what is meant by liberal feeding, it may be stated that a female patient weighing eighty-one pounds and suffering from melancholia, whose mind and body were in a constant state of agitation, and who would moan aloud and wring her hands, yet was willing to take food whenever presented. She took daily six tumblers of

milk, six eggs, malt and cod-liver oil, in addition to three regular meals. Another patient took ten tumblers of milk and twelve eggs daily, in addition to three meals. The gain in weight is also remarkable in some cases. One patient weighed 62 pounds on entering the hospital, and was discharged at the end of six months weighing 126 pounds. Another increased in weight from 91 pounds to 127 pounds. The gain in weight, when, fortunately, it takes place, is one of the gratifying incidents of the progress of a case. It is an indication that improvement and activity of nutrition and assimilation have begun, and as this improvement progresses there is the reasonable hope and expectation that a corresponding change will take place in the nervous system. If this improvement does not take place the prospects of the case are not so favorable. Great stress is purposely laid upon the importance of promoting and stimulating nutrition. To this end special attention is to be given to the condition of the alimentary canal, and to whatever will supplement nutrition. The essential object in all recoverable cases is the restoration of the bodily health to its best normal state.

In addition to the psychic and dietetic man-

agement of melancholia and other forms of insanity, the medical treatment has an important part. It may suffice to state generally that this should be such as the judicious physician might prescribe in his ordinary practice when he encounters corresponding conditions. Primarily it should be so directed as to improve the quality of the blood, promote nutrition of the nervous system and the normal action of all bodily functions, and secure rest and sleep. Iron in some form, Fowler's solution of arsenic, quinine with strychnine or fluid extract of nux vomica are among the useful tonics. The following familiar combination is one that experience has proved very useful, and with variations, if found necessary, may be taken for a long time. Each dose may contain :

Strychninæ Sulphat.,	gr. $\frac{1}{32}$.
Ferri Sulphat.,	" ij.
Acid Sulph. Dilut.	♏ iv.
Magnes. Sulphat.,	gr. v.
Syrup. Simp.	♏ xv.
Elix. Aromat.,	q. s. ad fl. dr. j.

Pain in the head and a sense of fulness or pressure are commonly present and complained of when an intelligent answer to questions can be elicited. Its existence may be inferred from the manner and actions of the patient, as rubbing the head, pressing the hands upon the

forehead, or pushing the hand through the hair. It may be suspected, also, if the hair is abraded, or is noticed to be pushed back from the forehead. These symptoms are accounted for on the hypothesis that there is a congestion of the venous currents. Cold, livid, and edematous extremities, observed particularly when the patient is disposed to maintain a standing position, plainly show the general sluggish state of the circulation. All of these conditions are relieved, or may be entirely removed in the early part of the attack by fluid extract of ergot combined with nitrate of strychnine. Massage may be directed to supplement the medical treatment, if the patient will submit to it. In general experience the patient objects and resists it. It is an interference with the personality which is usually resented, or it may be a source of delusive ideas, and should then be discontinued.

The physiology of sleep and the abnormal condition called insomnia are involved in obscurity. It may be said of sleep that it is a suspension of the will, and that the usual mental operations are in a state of temporary abeyance. Sleep or repose is so essential to the refreshment of the whole nervous mass that we cannot expect to restore a patient who

suffers from persistent insomnia without an effort to cure it. Such co-operative measures as riding, walking, massage—if the patient will not object—or a hot bath at bedtime, followed by a warm nutritious drink, as milk, may prove to be efficient helps. The temptation exists to resort at once to hypnotics and narcotics, and as the effects of moderate doses may not continue to have the desired result, to increase the frequency and quantity of the dose. The physiologic condition of sleep is so unsettled, the therapeutic action of medicines in producing it so uncertain and unknown, and the insomnious symptoms so persistent, that embarrassment arises in the selection at once of a hypnotic that is satisfactory in every case. A trial of several medicines may be deemed necessary, and all may fail. In turn sodium bromide, cannabis indica, chloral, hyoscine hydrobromate, sulfonal, trional, hyoscyamine, hyoscyamus, paraldehyde, opium and its preparations and salts, and many other so-called hypnotics have been used with good results, and again they have been misused and their use abused. It may be said of opium that it is uniformly the most reliable narcotic in the materia medica; but in many of the hospitals for the insane a dose of it is rarely administered for purely hypnotic purposes. It

may be said of the other hypnotics, that they have been used, but have been laid aside as ineffectual. The principal object to attain is the promotion of nutrition and the elimination from the circulation of all toxic agencies. The use of several of these agents disturbs the nutrition, increases the torpor of the bowels, produces mental hebetude, and causes toxemia. While opium and its alkaloids will produce sleep and repose, the after-effects often add a new complication to embarrass the management of a case, so that the unsatisfactory results are not balanced by its exceptional good effects. Occasionally, however, when the mental distress is so acute and intense that by analogy it has been called a mind-pain, with a tendency to exhaustion, such as suffering may produce, when the pupils are normal or dilated, the pulse and skin soft and relaxed, and no sign of capillary congestion appears, small doses of vinegar of opium or morphine sulphate may produce comparative comfort and relief.

It may be said of opium and its alkaloids, the bromides, chloral, and the hypnotics named, that their continued and excessive use is too often followed by unpleasant after-effects. As the several forms of insanity extend over weeks and months, great care must be exercised in

the prolonged use of drugs in this class. Among the new hypnotics less objection lies against hyoscine hydrobromate and sulfonal. Hyoscine is especially indicated in the insomnia of all forms of insanity attended with much motor disturbance, over which it exercises a marked control. The first dose may be one two-hundredth of a grain. If the pupils are not decidedly dilated nor the heart's action affected, the second dose may be one one-hundred-and-twentieth of a grain, and the dose may be even increased to one-sixtieth of a grain. It is good practice to administer one dose in twenty-four hours, and that at night. It would not be good practice to give more than two doses at intervals of less than twelve hours. The drug has the advantage in administration that it is tasteless, and that it can be administered in very small doses hypodermatically. Dryness of the throat and languor are complained of as after-effects, but they are not to be offset against the refreshment that comes from sleep, rest, and repose. Hyoscine in connection with nitrate of strychnine (gr. $^1/_{32}$) has a favorable action upon the restlessness and insomnia of the alcohol-habit and opium-habit. Some of the uncertainty of action of hyoscine has been owing, doubtless, to its tendency to de-

terioration and to the imperfection of its manufacture. Sulfonal has thus far proved to be a valuable hypnotic. It is best administered in warm milk, and its effects, on account of the slowness of its absorption, may be perceived in the course of an hour. The dose may be fifteen grains, or it may be increased to twenty-five grains. Some observers claim to have noticed unpleasant after-effects, but the consensus is that both hyoscine and sulfonal are valuable additions to the materia medica, and must remain such until displaced by something better. The value of trional is yet to be determined by further experience.

The abuse of hypnotic drugs deserves a notice here, as well as a warning. The prolonged administration of hypnotic drugs in frequently repeated doses has the effect of superadding to the existing mental disorder a new pathologic state, characterized by acute and general sense-disturbance, as delirium accompanied by delusions and hallucinations. The physical symptoms of what may be considered the effects of excessive narcotic drug-administration are not always easy of recognition at first view. A study of eighteen of these cases showed quite uniformly subacute delirium with hallucinations and diminished mental reflexes,

a feebly acting heart, a flabby, somewhat enlarged tongue covered with a pasty coat, a tumid abdomen, pupils slightly dilated and sluggish, and the countenance pale, expressionless, and in some cases covered with an eruption due to the bromides. It has repeatedly occurred that the hebetude, the speech-disturbance, and the diminished mental and physical reflexes have been mistaken for advanced stages of paresis or organic disease. The fact may be stated of these cases that on admission to a hospital improvement began when the hypnotic drugs were stopped and the patient felt the effects of nutritious food. The indirect effect of excessive hypnotic drugging is to add a toxic agent to retard or even endanger mental recovery. Life itself has been placed in jeopardy in consequence of partial paralysis or impaired performance of the functions of vital centres, by this injudicious practice.

As might be inferred, the tendencies of hospital practice are to place less dependence upon drugs and the greatest reliance upon nutritious food, to remove known causes of ill-health, and to promote the normal performance of the bodily functions.

The function of menstruation is usually suspended in melancholia, as it is in other forms

of acute insanity. The stoppage is one of the incidents or symptoms of the exhausted state of the nervous and physical systems. The fact excites in the minds of the friends of the patient, and sometimes also of the physician, an apprehension that it is the cause of the disease rather than one of the effects. It is often a subject of special treatment by the physician, and sometimes even surgical interference is suggested. There need be no special concern about the suspension of this function, as experience shows it will be resumed with an improvement of the general health; and when the resumption does take place, it may be regarded as one of the favorable signs that may presage further changes toward recovery.

Throughout the whole course of melancholia, assuming that the patient's strength will permit, it is better to insist that he rise from his bed daily, that he dress in the usual manner, go out of doors to walk or ride for exercise, receive massage if he will co-operate (which is not often the case when the disease is developed), and that he take the accustomed meals with the family or patients of the ward. It often occurs that a patient will partake of food at a table in company with others, taking chances with them that the food is not poisoned.

The patient is thus diverted and kept somewhat in accord with his usual daily routine habit of living when well, which it is important to adhere to systematically and persistently.

The importance of early and appropriate treatment in all cases of mental disease is universally conceded. The prospects of recovery will very much depend upon what is done during the first three months. It has frequently been urged that a patient with simple melancholia be sent at once to a hospital, but for personal and family reasons this may not always be practicable. If the diagnosis is clear, if the patient, though suffering from a mild melancholia, or a form of mental disease of another character—as the rule is of wide application—is still tractable and will accept advice, although not willing to go to a hospital, and if he has abundant means to carry out whatever medical treatment may be directed, it may be proper to make a trial elsewhere. The majority of the insane are not able to incur the expense incident to change of residence and prolonged professional and personal attendance, and must resort promptly to a hospital to give them the best chance for restoration. It is the well-known experience of all hospitals that the largest proportion of their recoveries come

from the indigent class, who are necessarily admitted in the early stages of insanity.

With the subsidence of the active symptoms of melancholia, and when a marked improvement of physical health has fairly begun, it then becomes most important to break up morbid ideas before they become fixed. At this stage it is sometimes observed that the mental condition is stationary. The tendency of thoughts and mental processes to flow in certain established channels in a normal state is well understood and must here be considered. It is important to prevent the delusions which have existed throughout the active stage of the disease from becoming fixed as the result of habit. Delusions may become fixed by indulgence in abnormal channels of thought. It is essential to divert the mind of the patient into new channels by a change of environment, which alone often serves as a sufficient corrective. In ordinary experience a new thought or idea will displace and supplant another, and the same rule will apply here.

In every form of melancholia the patient has an appearance of reserve, or may be wholly irresponsive even to a degree of apparent stupor. From the appearance of the patient, and such delusions and feelings as have been or are manifested, it is safe to conclude that

depressing ideas, fears, and apprehensions continue to occupy the mind, to the exclusion of other thoughts. In the management of the case it is important that the medical attendant and nurse frequently reassure the patient of his security and safety from any supposed impending trouble, that he is not to be harmed, and that his fears and worries arise from delusions which accompany sickness. While the patient may listen in a listless and apparently indifferent manner, yet this should not be a reason for refraining from encouraging words. It is of frequent occurrence that after recovery it has been stated by the patient that some words used, some change of location, or a trifling circumstance, marked the beginning of improvement.

Melancholia may terminate in recovery in from six months to one year. It may terminate fatally from gradual exhaustion in a few months. It may also terminate in a chronic stage, in which the patient may live an average period of fifteen years. During this period the delusions may be less concentrated and have a wider range, hallucinations, usually an unfavorable prognostic sign, may appear, self-control become impaired, maniacal outbreaks occur, and mental degeneration proceed until the terminal stage—dementia—is at last reached.

PLATE II.

1. Simple Melancholia.
2. Melancholia with Agitation.

CHAPTER IX.

MANIA.

UNDER the term **mania** may be grouped a large number of mental manifestations quite the opposite of those described as belonging to melancholia. Mania is a condition characterized by an abnormal exaltation and activity of the mental functions—the intellectual faculties, the emotions, and the will—and may show itself by irrational talking and acting, by delusions, illusions, and hallucinations, and by unusual muscular activity or movements. Here again a comparison of the condition of the individual in the disordered state in which he is found with what it was prior to the attack is necessary. It is important to learn the history of the patient in respect to his intelligence, his everyday life in relation to his accustomed occupations and to his family, his normal and usual manner of acting, and to learn whether any heredity or eccentricity-history exists. As it is difficult to find two persons who think and act exactly alike, so it is equally difficult to find two cases

of the same form of insanity that are precisely similar. There are complex combinations of ideas, and complications of mental faculties and psychic forces to deal with in every case.

While it is an easy matter, and quite the rule, to find one case of uncomplicated fever or pneumonia very much like every other case, in dealing with the form of disease now under consideration it would be most difficult to find one case in all respects the counterpart of another. Yet, without regard to the dissimilarity that exists in normal mental development, the activity of the emotions or the imagination, the brightness or the stupidity of different individuals, there is a sufficient similarity in the symptoms that are observed to make a subdivision of all cases of so-called mania into subacute mania, acute mania, chronic mania, and recurrent mania. These terms have reference mainly to degree, intensity, duration, and frequency. The number of so-called "manias" that have been actually described and named—usually from some prominent characteristic or persistent delusion—exceeds sixty. To present the refinements of nomenclature adopted by various writers upon insanity, no one of which is universally accepted, would consume more space than has been allotted to this subject, would not be helpful, and

would only result in confusion. The given classification will sufficiently aid an intelligent comprehension and study of any case that may ordinarily occur, and will answer the present purpose.

In **subacute** and **acute mania** there is usually a history of physical or mental overwork and protracted mental application without repose, resulting in strain; also, reverses or successes in business, profound moral shock, resulting from loss of property or kindred, and from disappointments, the exhaustion attending the puerperal condition, and alcoholic or sexual excess—all of which operate directly or indirectly to impair the normal standard of health, to cause loss of sleep, and to produce a functional irritability of the brain.

It is so unusual to meet with a case of mania in the acute stage that is not preceded by some symptoms of depression that the rule may be stated that this form of mental disease does not occur instantaneously as a transition from a normal state of physical health. As was stated of melancholia, there is here also a prodromal stage. A careful inquiry will reveal some disturbance of the physical health, or that a moral shock has been received, producing a profound depression upon a person possessed of a neu-

rotic temperament or heredity. The patient may show a disposition to devote his whole thought to some matter that concerns his personality or welfare, to seclude himself, and to dwell upon religious subjects, perhaps studying the Bible more than usual. Business matters may not be wholly laid aside, but as other subjects engross a great deal of attention the usual occupations are neglected, or are a constant source of perplexity. In the case of a woman, her personality or concerns engross her thoughts, and she may give herself up to emotional disturbance, as fits of weeping, laughing, and demonstrations of extravagant conduct of an hysterical character.

It will be noticed that there is a loss of appetite, that food is taken irregularly, and that the body-weight is diminished. Complaint may be made of insomnia, and that the small amount of sleep is disturbed and broken by dreadful dreams. There is an ill-defined sense of apprehension that something is to happen. There may be functional disturbance of the circulation, pain or discomfort in the head, flushing of the face, or vertigo. There may be unusual demonstrations of irritability or anger, outrageous conduct of some kind, or manifestations of erotic propensities. In women the function

of menstruation is usually suspended. While the physical and psychical symptoms of an incipient stage of mania may furnish a warning to an experienced observer, they are usually regarded as insignificant in proportion to the conditions they foreshadow, so that they may wholly escape serious attention.

The symptoms which have been named form the history of the incipient stage of a large proportion of cases of subacute and acute mania. The patient who may be suffering from them is seriously threatened with an attack of insanity, although, if he will co-operate with the measures the physician may propose, a further development of the disease may be arrested. The question will arise whether the patient should at once be sent away from his home for treatment. The decision should depend upon a willingness to submit absolutely to such rational treatment and advice as the physician may direct, until sufficient time has elapsed to determine whether improvement is to take place, or whether other more serious symptoms are to appear. If the threatening symptoms abate, it would then be advisable that some change of environment and absolute rest from business should be enjoined, and that all such measures as will promote sleep and the

complete restoration of physical health should be systematically followed. A companion possessed of common-sense, firmness, and mildness, with a course of tonics and generous living, may often be most helpful at this stage.

After a period of incubation, which may last from one to three months, marked changes may appear, and in the progress of the case the patient enters upon an advanced stage of the disease, during which the symptoms of maniacal disturbance are pronounced, or prove to be of the most aggravated character. Singly or together the emotions, the intellectual faculties, and the will are exalted beyond the normal activity. On an analysis of the mental symptoms, they may not be found to be due to delusions and hallucinations, but rather are limited to an exaggeration of the emotional and intellectual faculties. The disordered manifestations result from morbid functional activity, all of which may subside gradually, followed by partial hebetude and recovery.

If the case advances to an acute stage, accompanied with delusions and hallucinations, emotional disturbances, consisting of immoderate laughing mingled with tears, exhilaration, anger, affection, lewdness, frenzy, and revenge, will in turn appear. The patient becomes

garrulous in the extreme. Ideas originate with such rapidity that the conversation appears to be a disconnected confusion of words, which are uttered so rapidly and with such effort that they come forth as if propelled by some inward force. If the attention can be attracted, the answers to questions are often non-responsive; not for the reason that they are not wholly comprehended by the patient, but because, with the rapid discharge of ideas, he attaches but little weight to what he deems an intrusion in comparison with the importance of his own incessant, disconnected, rambling jargon. The conversation of both men and women may be carried on with a voice pitched to a high key, and with dramatic enunciation. Such is the conceit and egotism, that this may be one form the patient takes to attract attention by the noise he can make, or as a manifestation of his self-importance. The nature of the conversation is often obscene, profane, or trifling, directed promiscuously toward those who are near, or carried on when entirely alone. The feelings of modesty and decency which belong to men and women seem to be impaired, and self-respect is gone. The conduct of many patients of this class is exceedingly trying and vexatious to those about them and to the nurse in charge.

They cause a variety of mischief, provoke assaults, and make attacks upon others; they rend their garments and destroy furniture with apparent joy. Their habits are often dirty; they even smear their persons and the walls of their rooms at night with dirt, urine, and excrement. There is a propensity to make a noise, as by the destruction of glass or whatever can be damaged or moved about—sometimes to demonstrate their strength or to attract attention. They resist efforts made to control them, and become exceedingly violent. As the majority have a confused recollection of what has occurred, they are too likely to misconstrue the efforts of friends and attendants to control them into acts of actual abuse, which come to form the groundwork of nearly all of the complaints of ill-treatment.

There is always much motor disturbance in acute mania. All the muscles appear to be in a state of activity. The patient may even dance or leap; or he may try his strength, which is usually much overestimated by others, in various ways. The patient is disposed to add force and emphasis to his harangues by demonstrative gestures with the hands, feet, and body, keeping time continuously to rhythmic sentences. While these muscular demonstrations

and the loud tones of the patient seem quite formidable, and offer a strong temptation to attendants to overcome them by force and the use of mechanical restraint, yet it is possible to avoid much or all of this by judicious care, tact, and as little interference as may be consistent with safety in respect to non-essential things. If the physical condition is good, there is no objection to the noise or the muscular activity of the patient, and, if he really enjoys it, even to taking him out in a carriage or for a prolonged walk, in order that he may expend in a harmless way some of the superabundant force. The expression of the face and eyes and the rapid movement of the muscles show the variety and intensity of the inward emotions and the nature of the delusive ideas. The eye is more than usually bright and expressive, the pupils—rarely dilated—are natural in size, or slightly contracted; the face is flushed, or may have a pallor according to the nature of the controlling delusions or of the prevailing emotions. There is usually an absence of fever, the temperature rarely rising above 100° if no physical complication exists. The intellectual faculties are seriously disturbed from the outset.

The egotism and vanity of these persons

stand out prominently. The patient is loquacious, perhaps talks about everyday matters; but running through the thoughts and conduct are an egotistical exaltation and exaggeration of manner, and a self-assurance and aggressiveness that are wholly unnatural.

If there is to be a further development of more active symptoms, which is altogether probable, the delusive ideas are less distinct and systematized. On the principle of association, ideas present themselves in quick and rapid succession. Small incidental circumstances suggest new combinations, until the rapid flow of words seems to be a disconnected mass. Yet if the operations of the mind, acting in this rapid manner, can be closely observed, it will be found that the faculty of memory—always in these cases sharpened in a wonderful manner—is largely engaged in contributing to the apparent mental confusion by recalling ideas suggested by surrounding circumstances. Many of the delusions seem to be the outcome of the association of dissimilar ideas, and have but an evanescent, transitory existence. The delusive ideas—we can hardly consider them as having a clearly defined existence in the mind of the patient—produce but a momentary impression, and are supplanted by others, so that the pa-

tient, who at one moment may be irascible and rebellious, may at the next be amiable and readily disposed to do what may be requested. One important lesson from these mental indications in the management of these cases is to abstain from undue, unnecessary, irritating interference, and to let the patient intelligently alone. Some of the turbulence and violence of acute mania, like other mental disturbances, seem to be in the nature of successive explosions of uncontrolled psychic force. Those manifestations, consisting of loud harangues, with disconnected words, uttered with great muscular energy, or some sudden and impulsive violence, are explainable on the hypothesis that the powers of inhibition, or the governing, counteracting faculties and forces, are absolutely suspended or are in abeyance. Convulsive muscular movements are but a momentary suspension of the co-ordinating functions. So, many of the psychic mental phenomena are to be explained on the supposition that counteracting, co-ordinating, controlling forces are suspended, the governing function being in a state of temporary suspense.

Hallucinations and illusions of the senses are usually present in acute mania — more frequently those of the senses of sight, hearing,

and taste. Rarely all of the senses are abnormally affected, although such cases sometimes occur. The patient may successively be dominated by each in turn. He hears voices, to which he responds in audible words. He seems to see in the persons about him the forms of former friends or of distinguished personages. The food is rejected because the taste of medicine or of some disgusting substance is perceived. The air that is breathed is loaded with suffocating gases, and a sense of formication and intolerable heat is associated with the surface.

Hallucinations, as has been stated, are largely subjective or centric, while illusions are usually objective, eccentric, or have an external suggestive source. As a prognostic indication or sign in acute mania, a valuable intimation may be derived from the prominent sensory disturbances present. If these are connected with the objects surrounding the patient and in the nature of illusions—that is, are sensory distortions of actual existing objects—then the prognosis continues more favorable than when the sensory disturbances are wholly of a hallucinatory character, or have an inward, centric, subjective origin.

There are other abnormalities that belong to

this disease, as prolonged insomnia, insensibility to heat and cold, indifference to pain or fatigue, perversion of taste, increase of sexual propensities, and suppression of menstruation. The latter symptom, as has been stated of melancholia, is always of much concern to the friends of the patient, and sometimes to the family physician. But it is of no special significance, as the function is resumed with the restoration of health. It is rather an accompaniment of physical exhaustion than a cause of the insanity.

The usual rule is that an attack of acute mania runs a course of from three to six months, followed by a short or long period of mental and physical depression and inactivity. The prognosis is usually favorable if no serious meningeal complication occurs. The degree of excitement and turbulence is not to be regarded as an unfavorable element in our conclusions as to the result, as it is often but a manifestation of excessive functional activity.

It is most important that the process of recovery, when it begins, be not interrupted, and that a relapse be avoided. Relapses are generally unfavorable. If the process of restoration is interrupted, as from the imprudent interference of friends, or from some disturbance of

the processes of nutrition, or some unknown cause, the patient's mental condition may remain stationary. His peculiarities may then assume the phase of strong eccentricities, which remain, with some mental weakness, like unsatisfactory results, such as deformities after an attempt to treat a fracture, predisposing the patient to recurrent attacks.

Acute Delirious Mania.—Another and more serious form of mania, differing from the invasion of acute mania by reason of the suddenness of the attack, the delirium that is present from the onset, and the imminent danger to life, deserves a brief notice, although of rare occurrence. There are few premonitory symptoms. The disease has been called acute delirious mania, acute delirium, and mania transitoria. There is mania with active delirium. The patient may have been prostrated by sudden news or by some event that has produced a profound moral shock. There may have been exhaustion following a season of social dissipation, an active participation in a political campaign, attendance upon meetings that have deeply moved the emotions, or profound mental application and effort. The patient may have been noticed to be nervous, restless, and fidgety for a few days or a day, unable to obtain sleep, moving about

in an aimless way, quite busy, but accomplishing nothing. The facial expression and eyes betray deep inward mental activity. With a few premonitory symptoms, the delirium appears suddenly. It is active and profound from the onset. The patient talks rapidly and incoherently in a low muttering tone. The attention cannot be aroused, and there is unconsciousness of all surroundings, although the condition is not exactly like that of coma. The patient is too deeply absorbed in his delusions and hallucinations to pay any attention to place, persons, or things about him. The manner, anxious physiognomy, and disconnected utterances indicate that the patient is under the influence of delusions that excite fear, terror, and apprehension. There is prolonged insomnia. There is often a quick transition in a day or two after the attack to a state of quiet and repose, and apparently a return of reason. But this is followed by a return of the maniacal excitement and delirium. There are remissions of the psychic and physical symptoms. With the paroxysms there is great motor activity, the patient showing a disposition to roll upon the bed or floor, or to move about with a gyratory motion. Fever is present, the temperature rising above 100°. During the exacerbations the pulse rises quickly up to 120

or even 140. The tongue is heavily coated, and soon becomes dry, and the urine scanty. The skin is cool and soft. The delusions and hallucinations are depressing and wholly centric or subjective, and have no connection with the environments of the patient. The prognosis is unfavorable, and the chances are that the patient will die within ten days of the attack. If he survive two weeks the probabilities of life and mental recovery are fair. A few hours of sleep and the ingestion of nourishment are most encouraging indications. In view of the probable termination of the case in a short time, if the patient has a comfortable home it is not advisable to urge removal to a hospital when a journey must be made to reach it, as a crisis will soon be reached. The disease is one of exhaustion, and, when death occurs, aside from engorgement of the vessels, probably nothing is to be found to explain the result. The disease is rapid in its progress, terminating in death or recovery, and frequently excites interest from the character and social position of its victims.

The diagnosis of acute delirious mania is materially aided by noting the fact of exacerbations of the pulse and temperature, the pro-

PLATE III.

1. Melancholia with Stupor.
2. Acute Mania.

found delirium in connection with maniacal manifestations, and marked remissions of physical and mental symptoms.

The mental pathology is an acute neurasthenia, or the acute culmination of nervous exhaustion, with a tendency to a collapse of vital force. The temperature and pulse-range, together with the acute delirium and active hallucinatory disturbances, suggest a strong conviction that this disease is closely related to and dependent upon morbid changes of the constituents of the blood, or the existence of septic conditions of a grave form.

Puerperal Insanity.—The insanity of pregnant and parturient women should be noticed in this connection. Women become insane both before and after confinement, and the term "puerperal insanity" has been applied to this class of cases, because the disease has a relation to the puerperal state. The disease may appear in a few days or several weeks after confinement, or during lactation. The form, for convenience, may be called puerperal melancholia, puerperal mania, mania with delusions, simple depression or excitement, according to the degree or prominence of symptoms. The insanity of gestation, or prenatal insanity,

usually takes the form of depression. It is due to the worry, strain, and physical exhaustion that in some cases accompany gestation.

Post-partum insanity is usually maniacal in form and complicated with delirium. It is more frequently due specially to sepsis. The observations at the Pennsylvania Hospital for the Insane, if they are confirmed by general experience, would go far to strengthen this opinion. Since the introduction of stricter antiseptic measures in obstetrical practice the number of cases of puerperal insanity has decidedly decreased. For a period of ten years preceding the year 1897, twenty cases of acute puerperal insanity were admitted. For a corresponding period preceding 1877, ninety-nine cases were received. The opinion is entertained that if in every obstetric case a rigid exclusion of every source of septic infection should be observed there would be a further reduction of the number of cases of puerperal insanity. If practicable to obtain, the temperature and pulse changes will greatly assist the formation of a correct diagnosis in all these cases, and will prove most suggestive as to the proper treatment if septic conditions are thus shown.

The mental symptoms that characterize melancholia or mania, as they have been described,

are not essentially different in these cases, except that the onset is rapid, and may be either mild or severe. The rapidity with which some symptoms appear may be partly owing to the sudden change that takes place in the patient's condition at the delivery of the child. Slight emotional disturbances, as weeping or laughing, sometimes called hysterical manifestations, petulance, irritability, worry about the newborn child, are not infrequent immediately after confinement; but these conditions soon pass away with rest, returning sleep, food, and quiet, and may be managed at home. If these manifestations are prolonged, characteristic symptoms, such as have been described as belonging to the acute stage of mania, will appear. They are usually of the most aggravated character. The language and actions are inconsistent and at variance with the established character of the patient. The words may be profane, obscene, and uttered in a loud voice. The suspicions relating to persons and food are intense, and necessitate tact and patience in the management, and frequent changes of attendants. The agitation, jactitation, and general motor disturbance are very marked, and contribute to the exhaustion of strength and vital force. If the temperature and pulse do not rise,

if there is no complication, if the delusions and hallucinations are associated with the persons and things actually surrounding the patient, and if she will take food and procures sleep, then the prognosis is favorable, and no unreasonable anxiety need be felt about the result. On the other hand, if there is a temperature ranging from 100° to 104°, and the pulse over 100, with a rising and variable tendency, there is sufficient reason to suspect sepsis. To the maniacal condition there may be superadded a mental condition in the nature of delirium, confusion, and symptoms of meningitis. The attention of the patient cannot be aroused, the sensory disturbance is active, distressing, and exhausting. The tissue-waste is so rapid that emaciation goes on faster than the loss can be made good by liberal administration of nutritious food. The tongue may be coated and inclined to dry. While the threatening symptoms last the patient's condition is to be considered critical in the extreme.

If it is decided that the patient has passed the incipient stages and that she is likely to continue insane for several weeks, if the strength is good and the home cannot conveniently or for any reason be converted into a hospital, removal to a hospital should be effected without

delay. It is a common hospital experience to receive acute puerperal cases which have been transported long distances in a feeble condition at great risk to life. There should be no haste to undertake a journey if the patient is exhausted, as it is far better to convert the house into a hospital for two or three weeks, when a critical stage may have passed. The attending physician and the nurses must meet the emergencies until the strength of the patient will permit removal. As a rule, removal to and treatment in a hospital furnish the best guarantee against suicide, accidents, or any other calamity, as well as the best assurance of recovery. The probabilities are that the largest proportion will recover in from three to five months. If sepsis exists, it is a serious complication while it lasts.

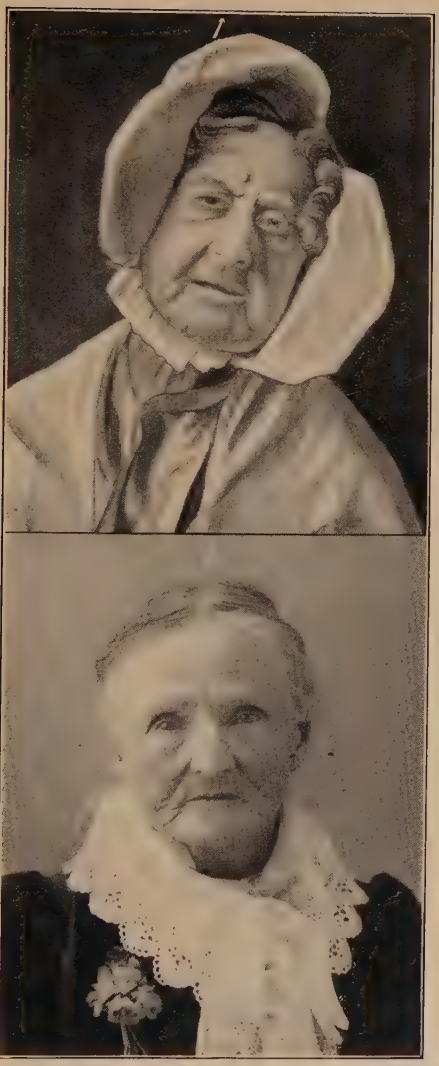
The tendency to suicide, to the infliction of self-injuries and mutilation, or to some act of violence to the newborn child, are all indications of extreme perversions of natural instincts in these cases, and should be borne in mind and guarded against. The precautionary measures should comprise constant observation, the removal from the room of all instruments that can be used as weapons, the security of the windows so that they cannot be opened beyond

a few inches, and the care of keys and the bath-rooms. It is the wisest course to make the patient absolutely safe at all times.

The recognition of melancholy or other alterations of the usual manner that attend the prenatal stage, and the diagnosis of puerperal mania and the insanity that accompanies the period of lactation, as well as the septic conditions that so often complicate this form of disease, are important to the proper treatment and care of the patient. The melancholy of prenatal insanity, and the subacute mania which may follow, as well as the acute maniacal stage which succeeds to delivery and lactation, may be mainly due to exhaustion of nervous force. They may also be incident to gestation, to the delivery of the child with accompanying hemorrhage, to the additional drain from lactation, or to septic causes which supervene.

Chronic Mania; Paroxysmal Mania; Recurrent Mania.—The active symptoms of acute mania may subside and leave the mental faculties permanently damaged. The disease then assumes a chronic form. In all cases complicated with meningitis some organic change may have occurred, involving the capillary circulation, and affecting the nutrition and blood-supply of the brain. The term "chronic"

PLATE IV.



1. Chronic Delusional Insanity.
2. Chronic Mania.

has reference to time, and in hospital-reports is understood to imply a duration of insanity beyond one year. Chronic insanity is not necessarily incurable. After the acute constitutional and mental symptoms subside, if recovery does not take place, the patient may yet resume to a degree an orderly habit of living, but does not return to his usual, or to any useful, occupation. The patient may show peculiarities and some mental weakness. He may laugh or talk aloud when alone, have no capacity or desire for self-support, be irritable, impatient, or fault-finding, and seclude himself from the society of his family and friends. It cannot be said of these patients that they have lucid intervals, but the remission of the active symptoms is so marked that they may often be discharged from a hospital when the habits of orderly living have been established. The periods of remission can hardly be called lucid intervals, for delusive ideas and decided instability and vacillation remain. Many such cases in and out of hospitals may, in the further course of their lives, have paroxysms with a recurrence of all the active symptoms of their disease, such as require hospital care, so that at no period can they be pronounced mentally well. The term *paroxysmal mania* has

been applied to designate appropriately this form of mental disease.

The tendency of chronic mania is toward continued deterioration and mental degeneration. A case of chronic mania presents during the life of the patient varying degrees of mental impairment, so that in every hospital will be found a number who have passed through the acute stage and are hopelessly wrecked and damaged as to their mental organization. They are often continuously noisy, turbulent, destructive of clothing and property, dirty and filthy in their habits, discharging their excrement in their clothes or in their beds. All traces of decent and orderly behavior, and the facial expression which may have characterized the patient in his normal condition, seem to be obliterated. They need the care of attendants to bathe and dress them in the morning, to place food before them during the day, to control their outbreaks of violence and their dangerous propensities, and to undress and place them in bed at night, where they pass so many sleepless nights that the night attendants can never report them as asleep. The care of these cases is incessant, and may extend through months and years.

In all of these cases the hallucinations and

illusions, which are prominent and dominating, have become fixed, and out of them have grown an infinite variety of delusive ideas and confused beliefs. The natural emotions and feelings are blunted or obliterated. They have as a class, however, a certain resemblance in respect to their disordered judgments, their manner and habits, their disconnected, incoherent conversations, their changed and perverted feelings, and the tendency to gradual mental failure and enfeeblement, sufficient to classify them under one general head. The Germans have used the term *Secundare Verrücktheit* to indicate chronic mania with mental confusion, and for the disconnected ideas and delusions following an acute attack.

Paranoia; Monomania.—Another class of cases has a proper place under the head of chronic insanity, as the disease in these cases endures for more than a year, or during the life of the patient. There does not appear to be a marked, or even a perceptible, acute stage. There is a history of mental and moral degeneration, with a gradual, insidious change in the character, affections, passions; and fixed and clearly-defined delusions are developed, which influence the life of the patient. The term *paranoia*, a Greek word signifying derange-

ment, or madness, has been applied to this form of mental disease. The term is good enough if there is a general agreement about its meaning and application. To designate this form of insanity the Germans have applied the term "primäre" verrücktheit.

In these cases there is usually an inherited predisposition to insanity, or an unstable mental diathesis, which forms the groundwork out of which the subsequent disorder develops. The patients may be the offspring of neurotic or intemperate parents. They are eccentric, indolent, reserved, suspicious, conceited, and vain. They array themselves in queer-looking clothing and strut about in public places with a pompous manner to attract attention. Their whole thoughts and lives show a strong self-consciousness, and their egotism is intense.

As such a case progresses, erroneous ideas take the shape of fixed beliefs or delusions that influence and change the life of the person. The individual places a high estimate upon his powers and capabilities, and gradually comes to assume that he has some exalted mission to perform for the world. He may consider himself a self-constituted reformer, and may resort even to acts of violence. Some of these persons come to believe that they are important

individuals, generals, kings, queens, and in some way have a personal relation to the rest of mankind. Delusions founded upon an overestimate of the individual and his assumed relations are systematized and occupy the mind for a time, to the exclusion of all other thoughts. One man conceives the idea that he is commissioned to save the world, and begins to preach. Soon he may believe himself divinely inspired, and then perhaps that he is himself the Messiah. Another conceives that he is a military personage, a general of high grade, a Grant, or a Napoleon—the titles expanding to reach his imaginary greatness. Crimes, acts of violence, and suicides are committed by such disordered persons possessing a strong will-power, under the influence of fixed delusions, as of persecution or conspiracy. The majority, however, are orderly, commit no breach of the peace, and are contented in the quiet enjoyment of their place of abode and their supposed greatness.

From the fact of the manifestations of uniform and fixed delusions continuing for a long period in the class of cases under consideration, there existed at one time a tendency to found a nomenclature and a theory of insanity, based on the hypothesis that the human mind was made up of separate and independent faculties

or ideational centers. When one was affected a name was devised, suggested by the prominent or fixed idea, or, as was suggested by the French, the person might be affected with insanity of one ideational center and sane in respect to all others. The supposed affection was called a "monomania." As the impulses and ideas originating in the human mind are numerous, the number of monomanias might become very large, if admitted without any limitation as to meaning or use. This term has a professional as well as popular recognition, from long usage, but no scientific foundation which can rest on the wider and more extended medical experience of the present day, as no ideational centers have been discovered. It is alluded to, so that if the terms are met with, or are used, there may be an intelligent comprehension of their actual significance and application and the class of cases to which they have been applied. Thus, writers have referred to homicidal mania, suicidal mania, kleptomania, dipsomania, theomania, etc., and these terms have been thought to serve a convenient purpose. It is to be understood, however, that the names used are only intended to indicate the existence and prominence of strong, so-called propensities and

ideas which the patient cannot or does not resist, by reason of impulses or actual delusions. On a careful examination of these cases it can usually be ascertained that the acts which these so-called monomaniacs commit grow out of the existence of some delusion, or result from habitual indulgence in unrestrained passions and vicious habits. For a time the patient seems to be dominated, perhaps, by a single prominent delusion or idea; but other mental disturbances show themselves in due time, and gradually, if the patient lives long enough, there is a general delusional condition. The stage of fixed ideas, of systematized delusions, is supplanted by a more advanced state of deterioration, so that in looking over the whole case at the end, while there have been periods in it when the patient had one or more strong, impelling, controlling delusions, which some might dignify with a special name, yet, as a fact, there has been a steady but gradual mental degeneration from the onset of the disease.

A woman was called a "pyromaniac" because she made repeated attempts to set fire to the hospital in which she was detained. It subsequently appeared that she believed the fire would be a signal for her release. A Frenchman in New York entertained a delusion that

he had inherited a fortune of several millions, yet he continued about his usual work. One day, while walking on Broadway, he suddenly drew a compass and thrust at every one near him, wounding three seriously and one fatally. Dr. Spitzka reported on examination that the man alleged that he heard from every side the cry: "There goes the man who is going to take all the money out of the land—kill him," and that he had drawn the weapon and used it in self-defense. So it might be possible to find that criminal and other acts committed by insane persons said to have irresistible impulses are the outcome of delusions or hallucinations of long-continued mental disease.

Recurrent Insanities.—It is the frequent experience of all hospitals for the insane to receive for treatment a patient who has a record of several admissions. The terms recurrent insanity and periodic insanity have both been used in this connection. The latter might convey the impression that the insanity appeared at stated periods, or that there was an element of regularity in the occurrence of the attacks, which is not generally correct. The term recurrent insanity is therefore preferred, as there is no known law of periodicity that governs these attacks. The form of insanity may be mania

or melancholia; or the characteristic symptoms of both forms may occur in the same case. It is a recurrent psychosis of a variable type. In some cases the evolution does not proceed beyond the stage of depression. The larger proportion of cases of recurrent insanity are instances of acute disorder of the mental faculties. During the intervals between the attacks, the patient seems to recover his normal mental state, and resumes his ordinary occupation. The intervals are of brief or of long duration. They may be months or they may be years.

The interval between attacks may also be brief and scarcely appreciable. If the patient is noticed to be exhilarated, talkative, attracting attention by busy ways and unusual activity about small things, making useless purchases, incurring debts, etc., it may be assumed that another attack is about to take place. There may be an explosion of acute maniacal excitement, which will be followed by melancholy, hebetude, and seclusion, with indolence and inertia. After a brief remission a similar series of symptoms may reappear. The term *circular insanity* (*folie circulaire*) has been conveniently used to further distinguish this class of recurrent insanities. They are instances of recurrent insanity with

brief and diminishing remissions, and not cases of a distinct form of mental disease.

Recurrent insanity does not ordinarily arise from the same causes that are mainly instrumental in producing the several insanities which are said to be acquired, such as neurasthenia, general ill-health, malaria, the puerperal condition, and organic brain degeneration. The majority of cases have a neurotic heredity, or a constitutional predisposition to insanity, derived from the mental degeneration of ancestors or the intemperance and vices of parents. These persons show in their manner, actions, and appearance marks of the psychic stigmata which have been inherited. They are eccentric, erratic, unstable, unbalanced, even while in their normal condition. They may even be bright and cultured, and in their best condition they are distinguished examples of original genius. There are numerous instances of those coming within the latter class whose minds have been clouded by frequent attacks of recurrent mania or melancholia.

The period of pubescence, the menopause in women, shocks, ill-arranged marriages, the sad and even joyous experiences of life are critical periods, and may be exciting causes of insanity. The alternating conditions of the human mind

and organization, and the mysterious periodicity which is noticed in all nature, may be an unknown factor in some of these cases.

The actions in recurrent insanity are not unlike those described as characterizing mania, or melancholia, in its various manifestations. The incipient stage, however, is of brief duration, and the active symptoms appear rapidly. It does not seem possible to abort the attack, which runs a self-limited course of several months. Recovery, when it begins, is rapid, and even sudden. A relapse need not be looked for until a fresh recurrence takes place, the patient in the interval seeming to be quite restored to his usual health. Patients are brought to hospitals for treatment as many as eight or ten times. As the attacks multiply in number or frequency it becomes apparent to the friends and to the physician that mental impairment begins, and recovery after each new attack takes place, more slowly.

The mental symptoms are such as belong to increased or intense activity of the faculties of the mind, rather than those that accompany organic brain changes. Prominent or fixed delusions are not always present, notwithstanding the intense mental activity. Some of these cases, when the type of disease is melan-

cholia, pass rapidly into stuporous states with controlling delusions, or they are impulsive, homicidal, or suicidal.

While the cause of a recurrence is sometimes clear, it repeatedly happens that patients who remain in a hospital during the periods of remission, living while there a quiet and uneventful life, seem quite as likely to have a paroxysm as at their own homes, without any apparent cause for its return.

Patients suffering from the several forms of mania are proper cases for hospital treatment and care. Their own safety and the protection of society alike require that the power of legal detention in places authorized by law for the reception of the insane shall be invoked.

CHAPTER X.

TREATMENT OF MANIA.

The general therapeutic principles that are laid down for the guidance of the physician in the treatment of functional disorders and recognized pathologic conditions in general practice, so far as they have an application to mental cases, are of equal force here. The treatment of mania is both moral and therapeutic. The moral treatment embraces all that concerns the environment, the personal attendants, the room or ward, the discipline—for the insane are amenable to discipline, which does not of course imply punishment. The quarters of the patient should be prepared by removal of all furniture not absolutely required; all articles that might be used as weapons should be secured, and an attendant procured, if the patient is in private care.

If the occupation and pursuits have been such as to produce great strain; if a serious impairment of the physical health exists that deteriorates the quality of the blood; if the mental

faculties have been too actively exercised at a period of life when the physical organization was in process of development; if mental operations, formerly easily performed, are now attended with difficulty and confusion of ideas; if the usual business or occupation is neglected; if there are depression of spirits, melancholy, and a tendency to introspection and self-reproach; if the whole manner of the patient has changed so as to be in marked contrast with the previous character; if there is restlessness, irritability; if the manner is hurried and vacillating; if the manner and usual habit are accentuated, the time has arrived when a warning has been received that must not be allowed to pass unheeded. A departure from the normal state such as we have indicated has its origin usually in strain, overwork, neglect, or violation of wholesome rules of living, and impaired bodily health. The bodily health and weight may not appear to be materially impaired, but some change of nutrition or pathological condition of the brain has occurred. If at this early stage the patient is willing to receive advice and co-operate with measures directed by a medical attendant, a resort to a hospital may not be necessary. But if the patient is not disposed to co-operate with the treatment proposed, on

account of perverseness, lack of will-power, mental enfeeblement, or vacillation; if delusions are present or a tendency to do violent or dangerous acts, then the strong will and judgment of some other person must be substituted for that of the patient. Removal from home, where the patient has been accustomed to control or has not been disposed to submit to control by others, is fully justified, in order that a proper course of treatment may be carried out, even if it involve the preparation of certificates for his legal detention in a hospital. At this stage, as in other mental cases, argument and persuasion are of no avail. Instead of convincing the patient by either method, suspicions are likely to be aroused, or the patient adheres to his own convictions with greater tenacity.

If the case progresses to a stage in which the patient is unmanageable and the symptoms are more active, the friends of the patient must be resigned to the fact that the disease will run a course from three to six months under the most favorable circumstances, during the whole of which time he will require medical advice, watchful nursing, and supervision by day and by night. It must be borne in mind that the physical condition of the patient is usually below the normal standard; that he is insomnious;

that a constant tissue-waste is going on; that the bodily functions are disordered; that the brain is anemic or hyperemic, the quality of the blood deficient in its normal constituents, and the nervous system in a state of irritability. The patient needs plenty of food, which may be given freely at the usual time for daily meals and at other times. It is hardly probable that he will get too much. He needs sleep, fresh air, and, if there is no fever and the strength permits, plenty of exercise out of doors. It is a good rule to allow the patient to move about under reasonable restrictions, to avoid unnecessary, irritating interference, or non-essential antagonisms of any kind, and, so far as practicable, to insist that he conform to his usual habits as to rising, dressing, taking of food, bathing, walking out of doors, exercise, and removal of clothing at night.

If the habits of the patient are destructive, the bedstead and all movable furniture may be removed, as the broken pieces may be used to destroy property or as weapons. The mattress may be protected by a covering of strong, painted canvas, and laid upon the floor. If clothing is persistently destroyed and the patient denudes himself, a suit of canvas or twilled moleskin cloth may be prepared for men. For

women a combination or union suit of twilled goods, composed of waist and pantaloons, buttoned or laced behind, over which a skirt may be worn, will be found useful in an extreme case. If force is to be used at any time, it is the more prudent course to employ plenty of assistance, so that a serious struggle be avoided. If it appears that a struggle is likely to occur in placing a patient in a bath-tub, it is the better course to substitute a sponge bath.

Much of the nervous irritability noticed in all of these cases, it should be remembered, is due to an altered or defective state of the nutrition, and tonics and iron should be administered for a long period. If the state of the circulation or of the heart is such as to require support, stimulants, digitalis, and strychnine should be given.

In the treatment of mania, especially if signs of delirium be present (as well as in all forms of acute insanities), the first attention should be given to the state of the bowels and kidneys. As a rule, there is constipation, and the urine is scanty and ammoniacal. Until the intestines are freely evacuated nutrition will not fairly begin. For this purpose a dose, or doses, of calomel will often prove effectual. The retention of fecal matter to a degree that is most

offensive from neglect and inattention, and excessive uric acid, may be among the toxic agencies that are sufficient to account for the superadded delirium.

The insomnious condition of all maniacal patients is one of the most embarrassing symptoms to overcome. It is persistent for weeks and months, but need not in itself create alarm, for the endurance of these persons is astonishing, and, as a matter of actual experience, death does not often take place from this cause, even in acute mania. The insomnia of the insane is due to nervous irritability, to the strong excitement of the feelings from delusions and hallucinations, and a motor disturbance that is only "a form of propulsion of nervous activity at the periphery." Functional activity of the brain causes an excessive flow of blood to the brain, which is not removed by the veins in states of nervous exhaustion, and stasis and engorgement result. Sleep is, therefore, promoted by medicines as well as other measures that tend to reduce the functional activity of the brain and excessive motor disturbance. Of all the narcotics, opium is the most certain and powerful, but its administration is not, on the whole, satisfactory in mental cases. The constipation that results renders opiates very ob-

jectionable; but the greatest objection to their use is the capillary congestion that follows the narcotism, and which is likely to be one of the conditions to be met and counteracted in the critical states of acute cerebral disease. The after-effects of preparations of opium are so unsatisfactory that their use is not to be recommended in the case of acute mania, or in one of insomnia with the delirium of fever, or from the excessive use of alcohol.

Sulfonal alone, or sodium bromide and tincture of hyoscyamus, in combination, will often produce sleep, and chloral may be occasionally added. This combination is thought by some to be attended with average good results for a short time; but there is objection to the effects of chloral and the bromides when used continuously for a long period. If the vessels appear to be full, if the face is flushed and turgid, the fluid extract of ergot may be administered to the extent of 30 or 40 minims three or four times daily. Hyoscyamin and hyoscin hydrobromate exercise a marked influence in controlling excessive motor activity and in inducing sleep in cases of mania. The second is a most powerful drug, and when used it is safer to commence with a dose of one two-hundredth of a grain, which may be repeated once in twenty-

four hours, carefully observing the effect. The dose may be increased to one one-hundred-and-twentieth or one-sixtieth of a grain. In the treatment of insomnia from alcoholic excess, hyoscin in doses of one one-hundred-and-twentieth of a grain is a useful hypnotic. In increasing the dose we should be guided by the state of the pupil (which dilates under the action of hyoscin), by the degree of muscular relaxation that the drug produces, and by the action of the heart. If the effect of hyoscin is to produce sleep and quiet, there is no objection to its use for a considerable period, but its prolonged use may cause retention of urine. The dryness of the mouth and throat that attends the use of hyoscin is a discomfort, but of small consequence in comparison with the good results that are often obtained. The effect of hyoscin in controlling excessive motor activity is one of the excellent results obtained from the use of this drug in conserving the strength and reducing tissue-waste.

Sulfonal, one of the new hypnotics, will undoubtedly have a place until a better is obtained, as it produces sleep in 80 per cent. of administrations without constitutional disturbance or serious after-effects. Sulfonal may be given in doses of from 15 to 20 grains. As it

is insoluble, it may be best administered in suspension in a tumbler of warm milk. It is slow in its effects. Trional has produced very satisfactory hypnotic effects in doses of gr. xv.

All medicine should, as a rule, be administered to the insane in a liquid form. If given in pills the chances are that the patient will not swallow it. Noisy and sleepless patients are known to sleep better if they have abundance of outdoor exercise and fresh air.

In the insomnious condition of acute mania with delirium, puerperal mania, and, it may be added, in the delirium of fever and other diseases, the danger to life seems to proceed from exhaustion of the vital force and paralysis of the vasomotor system. In all of these conditions the indications of danger are suffusion of the eyes, dry tongue, rapid pulse, fever, partial suppression of urine, contracted pupil, and lividity of the face and extremities, together with a complication of delirium of subjective or centric origin. All of these symptoms are evidences of capillary congestion, paralysis, and sepsis. Unless this tendency can be promptly averted, a fatal collapse will assuredly ensue. In this crisis a hot pack may be directed, and is often followed by a decided improvement, tiding the patient over a critical stage of his

disease. This pack may be administered by placing two beds side by side, or by placing the patient on a sofa and preparing a bed with a rubber sheet, upon which is placed a blanket. Two double sheets are to be placed in water at or a little above the temperature of the body, folded and thoroughly soaked. The water is then to be wrung from the sheets, which are quickly spread upon the blanket on the bed, and the patient placed upon the sheet. The blanket and sheets are to be folded loosely, but securely about the patient, in which he may remain two or three hours, after which the whole body may be rubbed dry, avoiding unnecessary exposure. This treatment, followed by food and an hypnotic, will often be attended with several hours of refreshing sleep, a discharge of urine, with a decided improvement of all symptoms. The French resort to a method for obtaining the same result by placing the patient in a hot bath for several hours. The patient may be placed in a tub with water at 95°, with a cover so arranged as to allow the head to appear above the tub and receive cold applications. The action of prolonged warmth applied to the whole body is to dilate the capillary vessels, relieve the strain upon the cerebral

vessels, and improve generally the state of the circulation.

Two cases of acute mania are very briefly presented for the purpose of illustrating the efficacy of medicines and liberal administration of food in the treatment of recoverable mania:

CASE I.—The patient was a young woman, by occupation a teacher, who had a history of overwork, loss of weight, and nervous exhaustion. She was noisy, insomnious, and in constant agitation. Her weight on admission was seventy-six pounds; blood-count 3,350,000 per c.mm.; the hemoglobin estimation 60 per cent. She was discharged well in fourteen weeks, her weight being one hundred and nine pounds, the blood-count 4,450,000 c.mm.; the hemoglobin estimation 69 per cent. The treatment consisted of tonics, ferric sulphate with strychnine, sulfonal at night, with most liberal and systematic administration of food.

CASE II. has a special interest on account of the cause and the efficacy of the specific treatment. A married woman suffering with acute mania was noisy, dirty in her habits, rubbed excrement on her person and in her hair, denuded herself, destroyed clothing and hospital property. She had tubercular syphilides on the legs, arms, and back. Treatment consisted of mercuric chlorid, potassium iodid, syrup of ferric iodid, and tonics. The improvement was rapid, so that the maniacal symptoms abated in four weeks, and the patient was discharged well in four months.

In the general management and treatment of mania in the acute stage, the indications throughout are to sustain the strength of the

patient and repair the waste that goes on rapidly, rather than to place the chief reliance upon medication. In this, as well as in all forms of insanity, the greater advantage of hospital treatment lies in the systematic and persistent application of all measures and the administration of all medicines directed by the physicians. In the hospital treatment and care of the chronic insane the regularity of the daily life of the patient tends to establish orderly habits of living, to the development of self-control, and the abatement of paroxysms of excitement. A chronic case of insanity may acquire habits of industry which divert the mind from introspection, from the influence of delusions and hallucinations. New paths of thought become fixed, which in turn supplant suspicious and delusive ideas, the patient gains self-control, and may often be discharged from the hospital to reside among his friends.

CHAPTER XI.

DEMENTIA.

It has been stated that the two opposite conditions—mental depression and mental activity with general exaltation, described as melancholia and mania, with its several subdivisions—may have a terminal stage in mental enfeeblement, which is called *dementia*. Dementia is an enfeeblement of the mental faculties. Mental enfeeblement peculiar to childhood, from arrested development, congenital idiocy, or imbecility, is not included under this term. There are varying degrees of the abatement of vigor of the judgment or understanding, impairment of the will-power, and of subsidence of the manifestations of the normal feelings and affections, showing degrees of deterioration, even to complete obliteration of all power to form thought, to act, or to show any feeling. In brief, in complete dementia the mind is damaged or destroyed. Dementia may also occur as the result of organic disease of the brain, of cerebral hemorrhage, of embolism, or of changes

in the cerebral circulation, such as may result from endarteritis that may interfere with the nutrition of the brain; it may be due to the presence of tumors, syphilitic gummatous growths and degenerations, or to alcoholic excesses; it may be a sequence of disease, as malarial cachexia and typhoid fever; and it may follow the trophic changes incident to old age. The more frequent form of dementia met with in hospitals is that which follows as a terminal and consequential stage of melancholia and mania. Dementia may be either primary or secondary, partial or complete—terms indicating order of development and the degree of impairment.

Dementia appears sometimes, but rarely, as a *primary* condition. Under such circumstances it may be the result of sudden shock, physical or moral, or of excesses, either sexual or alcoholic. There is no preceding stage of excitement, and, while the symptoms are quite like those of secondary dementia, to make a differential diagnosis for the purpose of treatment it is necessary to study the history of the case carefully, as the one condition offers more hope of recovery than the other. If the patient has passed through an attack of illness, as fever, or has been exhausted by close and long appli-

cation to business or brain-work of any kind, or has been profoundly impressed by some moral shock, such as may occur from domestic affliction, sudden disappointment, or injury of the head, as from a fall, the mental functions are inactive and feebly performed. The patient undergoes a change, may become apathetic, lack decision, be indifferent to his surroundings, laugh when alone, show little interest in his family, appear to be confused, be unable to collect his thoughts or to write a letter (which may be noticeable by the number of omitted words and sudden breaks in sentences which are left incomplete), and talk slowly, while the memory of recent dates and events is indistinct and evanescent. The mental condition is that of hebetude not due to organic brain-changes, but is dependent upon a suspension or abeyance of mental function. In a state of partial dementia a person may sometimes be able in part to carry himself fairly well, in accordance with the degree of impairment, performing many habitual acts in an automatic way, but show an incapacity to originate. The physical condition is also impaired, the circulation is sluggish, the extremities are cool, soft, and moist, with a tendency to lividity. The face is pale, or may change color quickly, with or

without apparent cause, due undoubtedly to fleeting emotional impressions. The pupils are dilated, the usual facial expression is lost, and the patient wears a vacant, staring look. If the patient does not pass beyond this stage it is hardly probable that he will enter a hospital for treatment if he has ample means and a home. If in moderate circumstances the chances of recovery are best in a hospital; and in either case a certificate may properly be made, if necessary. It must here be remembered that the patient is seriously threatened. Rest, the gentle diversion that change of air and scene will furnish, tonics, iron and arsenic, electricity and massage, with generous diet, afford the best hope of recovery. In all these cases improvement may be expected if the physical health can be sustained and a new order of nutrition stimulated and established.

Primary dementia and mental enfeeblement may result from injuries to the head, as from blows or falls. Under these circumstances the brain is jarred, and, in addition to the concussion, its nutrition is seriously disturbed. In a hospital case the patient had concussion from a fall, striking the head upon the street pavement. The pupils were dilated, the pulse was slow and soft, the temperature subnormal; the

mental operations were sluggish and apathetic; the consciousness and memory were impaired, and the patient was indifferent to movements of the bowels. There was inco-ordination of the muscles of the legs. The mental state was that of hebetude and dementia. Recovery ensued in three months under the use of tonics—strychnine, electricity, and attention to the alimentary canal. In another case, a colonel at the head of his regiment received a wound in the left frontal region from a spent ball, which penetrated the external table, but did not injure the internal table. After a slow convalescence he recovered his usual strength, but was noticed to be irritable and passionate; he lacked judgment, was vacillating, and incompetent to perform his duties. After the lapse of seven years he was in a state of complete dementia, and eventually died in a convulsion. A post-mortem examination disclosed a cyst filled with straw-colored fluid at a point corresponding to the point of injury, together with extensive pachymeningitis, with effusion. In a third case, an iron-worker fell from a truss of a roof of a station-building, sustaining a fracture of the skull. After recovery from the immediate effects of the injury there were inequality of the pupils, double vision, inco-ordination of

gait, headache, extreme hebetude, and hallucinations of hearing. Recovery followed prolonged use of mercuric chlorid and potassium iodid. The three cases best illustrate the direct and remote results of injuries to the head, and also, as in the last case, the importance of directing the treatment of the early stage on the assumption of the existence of an acute or subacute meningitis with its attending results.

Primary dementia may appear with such manifestations as to resemble melancholia with stupor, from which it should be distinguished. In primary dementia the mind is impaired and weakened. Delusions are absent, as the dement does not formulate any fixed idea. He is passive and indifferent. He is not suicidal, and takes food when it is offered. The pulse is slow, and the patient is not insomnious. Mentalization is feebly performed. It seems in a state of suspension. On the other hand, the stuporous condition of melancholia is due to the existence of controlling delusions, so that, while the patient seems in a state of stupor, the mind really is intensely active. The melancholiac is suicidal and resists being moved, as well as walking and taking food. In dementia the mental reflexes are blunted and inactive, while in melancholia they are active and per-

sistent. The study of the prodromal or incipient stages of the two forms of disease may be an aid in arriving at a differential diagnosis. The prognosis in these cases is usually favorable.

It may be important to distinguish idiocy from dementia. When a question arises it should be remembered that while idiocy and imbecility are usually recognized in childhood, dementia appears later in life and in a person who has presented palpable mental development. The idiot has, as a rule, some marks of physical defect; there may be some malformation or irregular development of the cranium; the arch of the mouth may be high and narrow; the vision may be defective; the physiognomy has a prematurely old expression; the fingers may be short, and there is unsteadiness of gait from inco-ordination; or there may be some lack of symmetry in the development. The dement shows rather physical weakness than physical defect. In accordance with the degree of dementia, the mind receives only transitory impressions which may leave no trace. They come and go, so that the memory neither recalls events that are past nor notices present occurrences. The face of a familiar friend may elicit a momentary sign of recognition, but the

impression is a fleeting one and is forgotten. Life may seem to be but an animal existence, destitute of emotions, the pleasure of the society of kindred, and all interest in former concerns is ended, the patient standing or sitting in a state of passive indifference to all environments.

Senile Dementia.—As the mental faculties of infancy are weak from lack of development, so in old age they have failed from prolonged use, from degeneration of the cerebral vessels, and trophic changes in the cerebral mass. Here the enfeeblement — characterized usually by the term senile dementia—seems to be a primary change, although in a small proportion of cases it is ushered in by a state of subacute delirium and insomnia. The patient seems confused, forgets his way, or, thinking he is not in his own home, attempts to wander, and may show resistance if opposition is interposed. Loss of memory is one of the earliest symptoms of dementia of mental failure due to old age. Lack of attention must not be confounded with absent-mindedness and inability to recall names, dates, and events, which is quite common even in middle life by persons much engrossed in business affairs, who pay little heed to matters not exactly in their line. Memory does not alone fail, but there is a general failure of all

the mental powers, together with loss of physical vigor, and the state called "second childhood," or senility, appears. The vacillation, loss of will-power, and erotic propensities, which senile dements so often exhibit, render them an easy prey to designing persons who bring about marriages, or procure the execution of papers that often give rise to vexatious litigation, or wills are changed and codicils added which are subsequently disputed. Persons who have well-marked symptoms of senile dementia at sixty-five, or subsequently, do not recover their reason, and their friends should be so advised. Senile dementia rarely occurs prior to the age of sixty. If subacute mania or delirium seems to precede the failure, the friends of the patient will often consult the family physician about the necessity of taking the patient to a hospital. While this alternative must sometimes be adopted, this stage will probably be of brief duration, and will be followed by a passive and manageable condition.

The nervous system seems susceptible to the deteriorating influences and changes produced by syphilis, and primary dementia may be one of the sequences of syphilis. According to Savage, idiocy and moral perversion may be due to inherited syphilis. Acute and recur-

rent insanity, with optic neuritis, impairment of sight, ptosis, and strabismus, may all follow constitutional syphilis. Syphilis may be a cause of melancholia and acute mania; also of epilepsy, locomotor ataxia, hemiplegia, and amaurosis. It is associated with the history of 80 per cent. of cases of paresis. As there are no symptoms, and none of the forms of nervous and mental disease already mentioned that belong exclusively to syphilis, it is important to get as much history and as many clues as possible in any given case that may lead even to an inferential diagnosis of the existence of syphilis, that may be suggestive of a course of treatment.

Primary dementia, or profound hebetude, with a history of syphilis, may simulate paresis. If the history, for any reason, leaves the physician in doubt as to the cause or form, an antisyphilitic course of treatment is fairly warranted. Recovery sometimes is equally surprising and rapid. A hospital case recovered from a state of apparent complete dementia after fourteen weeks' treatment with mercuric chlorid and potassium iodid, taking 70 grains of the latter three times daily.

Primary dementia may follow the exhaustion attending prolonged physical and mental strain, such as may attend military campaigns, home-

sickness, deprivation of food, and the vicissitudes of war. After the late war thousands who had been prisoners, or who had passed through the terrible experiences of the field, were left as mental wrecks. No one who reviews a procession of the survivors of the war can fail to discern in their fixed and immovable faces, often their prematurely old look and loss of physical vigor, the disastrous effects of the severe ordeal upon their nervous organizations—a disability not perhaps to be exactly estimated, and conclude that it is appreciable and equivalent to the added wear and tear of from ten to fifteen years of life in the case of each one.

Dementia may follow melancholia and the various forms of mania, epilepsy, and, as we shall see, paresis or general paralysis of the insane, as a secondary or terminal stage. It is, as has been observed, "the goal of all insanities." After a prolonged period of depression or exaltation there ensues a stage of quiet and repose. The violence and force of the shock of the disease has expended itself, and the brain has been damaged. Nutrition may have recommenced and gone on actively, with increased body-weight, but there is no mental improvement. The patient has lost his vigor, and has settled into a passive, indifferent state.

Memory is weakened, the natural affections are blunted, the powers of attention and concentration are gone. There is an indifference to personal appearance and dress; ideas are evanescent, although some of them—perhaps a remnant of the active stage—remain, and excite but a momentary emotion. There are no fixed and prominent delusions; the face wears a placid, smooth, expressionless look, for the facial muscles have lost their characteristic responsive action. The man is in no respect what he was before his sickness, and is like a ship after a storm, having form and motion, but without a pilot or rudder to guide.

A patient partially demented may remain in a stationary condition during the remainder of his life. He may have some capacity to receive impressions, but he has no capacity to formulate ideas. A near relative, a judicious attendant, or a hospital organization, furnishing the will-power that has been lost, may be able to keep the patient up to his highest attainable standard, and this may be all that can be done for him. Yet, despite all that may be attempted, the dement has a tendency to deteriorate physically and mentally, and may sink to the lowest state of animal existence. The functions of animal life are performed, the food

is received into the stomach and digested, but the psychic storms are ended, and there is no recognition of days, dates, or kindred. The contents of the bowels and the urine are discharged in the clothing or in the bed, and saliva flows from the mouth. The countenance has lost the natural expression, the extremities are cold, livid, and perhaps edematous from the feeble state of the circulation, and the downward tendency is progressive until death occurs.

The prognosis of primary dementia following physical or moral shock, fevers, or arising from functional conditions, is not unfavorable. If dementia has appeared suddenly the prognosis is more favorable. A fair proportion of cases will recover. In secondary dementia, when there is reason to believe that some damage to the brain has been done, or some organic change has occurred, the prognosis is unfavorable. This opinion is always strengthened if the bodily weight has increased without any corresponding mental improvement.

Another class of mental cases bears such a close resemblance to primary dementia that they may be easily mistaken and confounded with that disease. The prominent symptoms are the suspension of mental activities and the will-power, and the appearance of a state of hebe-

tude, such as may be observed in advanced and pronounced cases of dementia. These symptoms are not, however, the terminal stage of a preceding acute attack. The disease is commonly observed in the young at or near the age of adolescence. In women it may appear near a menstrual period. It may also make its appearance in states of nervous and physical prostration that follow fevers, malarial poisoning, or exhaustion from excesses of any kind. The tendency to a recurrence of the state of mental confusion, with some appearance of periodicity, is one of the notable things to be observed—the patient quickly passing into a stuporous condition. The resemblance to dementia consists in the apparent mental inactivity, which, on a closer examination, is rather a suspension or abeyance of the mental functions that connect the patient with his environments. The patient may as quickly return to consciousness after a period of partial stupor, lasting for a week or several weeks. These cases assume a trance-state, and sometimes show cataleptoid tendencies. They are to be distinguished from dementia after a careful examination of the history of the case; by the absence of an acute stage; the absence of mental and physical symptoms that would indicate an

organic change; the recurrence of stuporous conditions, followed by remissions and a return of rational conduct and conversation, and a physiognomy and expression indicating much more intensity of mental action than appears in dementia. On emerging from the mental condition which has been alluded to as indicating rather a suspension than the loss of mental faculties—a trance-state which might imply rather an abeyance of the will-power than its destruction—it has been the experience of patients to converse rationally, to remember, and even make statements of the prominent ideas that occupied the mind during the disordered functional state, even to state many things that actually occurred, and their utter helplessness. From the statements made and the appearance of the patient, important suggestions are derived for treatment and prognosis, which is usually favorable. The thoughts seem to be centered upon some one prominent topic. They are likened to a vagary of a distressing character, such as may be remembered of a dream-state.

The physical symptoms are such as may be observed in states of exhaustion and depression of the vital forces, such as accompany anemia. The face is pale, the temperature is inclined to

be subnormal, the skin cool and relaxed, the pupils dilated. The position of the patient is bowed and inclined forward, the hands may rest upon the knees; there is no response or attention to questions. The tongue is enlarged and has a pasty coating. Saliva is retained; food is swallowed if placed in the mouth in liquid form, but no heed is given to any of the discharges. The patient is absolutely passive. While these cases simulate dementia, they are to be differentiated from that disease. They are cases of subacute delirium with mental confusion, often associated with the conditions of anemia and various as well as complicated nervous phenomena.

Treatment.—As dementia may be primary and secondary, so it may be partial and complete. The physician should direct the treatment of primary dementia to the removal of any causes that have contributed to the disease. Primary dementia is a rare affection. In some cases the causes are ascertained, and in others they are conjectural. The disease may be caused by an occupation. Workers in lead and those exposed to fumes of mercury and arsenic have suffered from primary dementia. Persons exposed to marsh malaria, and prisoners of war, have alike suffered from this disease. It

follows physical diseases, as fevers, syphilis, endarteritis, and organic changes in the brain. In the majority of these cases appropriate medicines, calculated to improve the physical condition, and good nursing, contribute to improvement or recovery. In secondary dementia, or dementia following chronic melancholia and chronic mania, an incurable damage has been done, and organic brain changes and degenerations have occurred. In the early stage of an acute mania there may have been a meningitis with exudations, and the succeeding trophic changes may have taken place in the brain. Endarteritis and other changes in the intracranial system may occur, which remain permanently.

As the tendency in all cases is toward deterioration and continued mental degradation, persistent efforts should be maintained to antagonize the drift in these directions. Systematic and persistent efforts should be made to conform to some ordinary and usual rules of living, as to rising, ablutions, dress, taking food, exercise, and occupation. In a hospital service baths, changes of bedding, clothing, and ventilation for purposes of cleanliness and sanitation require constant attention. In the management of dements, as they are indifferent or negligent,

and cannot make their wants known, attention is necessary to their dress, food, and habits, in order to promote their comfort. It is the duty of the attending physician to study the needs and the helpless condition of the patient in order that intelligent directions may be given to the nurses.

Habits of cleanliness may be formed by taking these persons to a water-closet with some regularity during the day and at bedtime. Many of the hospitals where large numbers of dements and bedridden patients are congregated provide for a distinct night service in infirmary wards for the care of these cases. The improvement that takes place in the habits and comfort of patients assigned to special care in infirmary wards in charge of a night service, as well as the relief and comfort which are afforded to other patients who are cleanly, is well known by actual trial.

The irritability and discomfort these patients manifest often arise from inattention to their personal condition and to their extreme debility. The comfort of the insane of this, as well as other classes, is promoted by attention to their simplest wants, by such medical treatment as will improve the physical conditon, by tonics and a generous dietary. Sedentary habits, with the

consequences that ensue, should be broken. As many cannot or do not masticate food, it should be cut into small pieces or given in liquid form to avoid accident.

Cases that have the appearance of primary dementia arising from shock, profound moral impression, bodily sickness, cachexia from fever, etc., are properly treated with generous diet, wine, iron, arsenic, and massage, for prolonged periods.

CHAPTER XII.

PARESIS.

Paresis is a form of insanity in which there is mental disorder of several types, accompanied with progressive muscular paralysis. The terms that have been applied to this disease in medical literature are "general paralysis of the insane," "paretic dementia," and "paresis," all of which are synonymous, or are so intended and understood. The last has equal significance from its derivation, and is short. It is a disease of the brain and spinal cord, characterized usually by maniacal disturbances in the early stage, with enlarged and grand ideas of wealth, power, and greatness, followed by mental failure and dementia, defective articulation, gradual progressive paralysis of the muscular system, with occasional epileptiform convulsive seizures.

For convenience the disease may be divided into three stages:

1. A prodromal stage, or period of incubation.

2. A stage of decided maniacal activity, or dementia, with symptoms of paralysis.

3. A stage of profound mental enfeeblement, with physical helplessness.

Although it has been usual to refer to a prodromal or incipient stage of general paralysis, the symptoms that may be called characteristic, or those that indicate the coming disease, are not definitely determined in the initial stage. It is a stage that precedes the outbreak, or that period in its progress when a convulsive seizure may have occurred, or when the friends of the patient or the public authorities interpose to control or restrain the liberty of the patient, lest he commit some outrageous act. Then, for the first time, probably, the case comes to the knowledge of a physician, and the acquaintances of the patient will recall peculiarities in his conduct covering a considerable period of time. It may appear on inquiry that there has been a period of depression or hypochondria, that the patient has been extravagant beyond his income, that he became intemperate and licentious, unmindful of marital relations, negligent in respect to business, and sleepless; he may have complained of headache, dyspepsia, general loss of vigor, and loss of memory of recent events. The individual has undergone some change, and is an object of solicitude to his friends. He

may have been noticed to be abstracted, as if absorbed in deep contemplation, and to be reserved or taciturn. There is no apparent constitutional disturbance, the appetite is ravenous, the sexual propensities are strong, and the patient seems to lead a contented, abstracted life. How long these symptoms may have lasted is usually a matter of uncertainty. They appear in some cases to have existed for several weeks or months. Not one of these symptoms can be regarded as pathognomonic of general paralysis, but taken together, when occurring in an individual of thirty-five or forty-five, who has enjoyed exceptionally good health, who has the reputation of living what is called a "fast" life, they are threatening and alarming premonitions. The mental symptoms that belong to the initial stage are sufficient to excite an apprehension of some impending and serious disease.

The second stage furnishes unequivocal signs of the existence of this fatal disease. The patient's manner now undergoes a marked change. Whatever may have been the previous mental symptoms, his sleep is short and broken; he rises early; he is restless, moving about from one place to another, but really accomplishing nothing. If he has been depressed or despond-

ent, his manner is changed; he is exhilarated, the voice is elevated, and the manner more self-assertive. There is a disposition to make purchases of useless articles and property, without any regard to the extent of the obligations incurred. There are ideas of great wealth, of investments that will return great profits, of enormous business projects, of great physical strength and prowess, and food is taken ravenously and in large quantities. If the physician at this stage inquire of the patient as to the state of his health, he will almost invariably answer "first-rate"—that he never was better. If close attention is given to the articulation, the existence of some hesitation or peculiarity may be detected. There is a slight thickening of the speech, caused by an inco-ordination or paralysis of the muscles of the tongue and lips. If at this stage of the case, exalted, expansive delusions of wealth, power, or strength are observed, though the patient's condition does not reach a maniacal stage, but is one of general comfort, indifference, and good feeling, the cause of which the observer does not succeed in drawing out, and if, in addition, there is noticed a hesitation of speech, the kind of articulation so much like the thick talk of a person under the influence of alcohol, there need be no doubt as

to the diagnosis. The motor disturbance of the tongue may be obscured at first by the activity of the maniacal symptoms; but the peculiar pronunciation of words containing several syllables with consonants will sooner or later become quite marked. This is the first sign of a beginning of general and progressive paralysis. The patient seems to stumble over words or enunciates them with an omission, perhaps, of one or two syllables. There is a propulsion given to the word with an evident effort of the facial and labial muscles. The tongue appears to be protruded with a similar effort, as if there was a gathering of strength, followed by a sudden movement. Part of the effort is due to a mental incapacity to comprehend the question at first. When the tongue is protruded fibrillar movements will be noticed to be quite active and distinct, giving to it a tremulous appearance. The altered speech seems to be the first indication of approaching paresis, although there is another physical symptom that may also appear quite early, and should be looked for—an inequality of the pupils, or unequal dilation, or the opposite—a contraction to pin-head size.

The experienced observer may discover in the exalted and grandiose delusions the men-

tal symptoms of paresis, yet a conservative judgment and diagnosis will be better fortified by awaiting the manifestations of characteristic physical evidences furnished by the altered articulation and inequalities and changes of the pupils, when it is of great importance that conclusions should be correct.

If the patient is physically broken down at the onset, and of a mild disposition, there may not be any extraordinary maniacal development, and he may pass through this stage quietly, pleased with his good health, his imaginary riches, and his supposed comfortable surroundings. These are, however, the exceptional cases. The general activity and exaltation, the amount of imaginary business to be transacted, and the general exaggeration of the *ego*, the personal individuality of the patient, lead to an enormous amount of letter-writing. In hospitals, in addition to the stationery that may be issued, newspaper margins and book leaves are appropriated to write upon. The handwriting here throws some light upon the diagnosis of the case. The handwriting is altered and bears evidence of incoordination in the wavy lines; the spelling of words is incomplete from the omission of letters and syllables, and whole words or sentences

are broken, run together, or omitted. The substance of the letters shows the mental condition; they may contain orders, notes of hand, or checks for fabulous amounts. Now and then a person who is actually rich is seized with paretic dementia, and enters upon new and enlarged schemes, which are the actual growth of disease, and may seriously compromise an estate or a trust before the real condition is understood. Men who have been accustomed to manage their own affairs will not brook control and advice, and if opposed are violent and dangerous. As a matter of actual experience, these paretics are so full of business, so good-natured with their vast possessions, that they are easily managed or diverted, even in their excitement. They rarely commit violent or criminal acts as a result of their delusions, although, if opposed, as, for instance, in attempting to leave their homes or in attempts to travel about the country, they will persist in their efforts, even to a forcible resistance of all control. Although they may boast of their great strength, that they are trained athletes, and delight in displaying their muscles, their strength is expended in a single effort, which leaves them exhausted.

The nationality seems to influence somewhat the nature of the delusions of the paretic. In Continental countries, where the possession of political power and aristocratic titles seems to be the ideal and aim of earthly existence, a paretic is an emperor, a king, a duke, or a lord. In America, where money and all that it will command seem to count for more than political honor, he is richer than those who count their riches by millions, is about to build great railroads, which he will equip with gilded palace cars. He may say he is the oldest person in the world, knew Adam and Eve very well, created and even owns the world. The paretic is a very destructive person in a hospital during the maniacal stage of the disease, destroying his clothing, denuding his person, twisting the torn threads into rolls and ropes, filling his pockets with scraps and rubbish which he treasures as diamonds.

During the second, or maniacal and delusional stage, hallucinations of the senses are seldom observed, and can hardly be said to exist. The memory is impaired, the appetite is ravenous, there is no fever, the pulse is normal, and the bodily functions are fairly well performed. The expression of the face undergoes a change. It

becomes smooth and rounded as the facial muscles lose their play, and the physiognomy has a puffy, bloated look.

Disturbances of the cerebral circulation are frequently observed throughout the disease. The partial paralysis of the vasomotor system results in hyperemia of the brain. The face is flushed and turgid, and convulsive seizures may take place during the second and last stages of the disease. The convulsive seizures are epileptiform and apoplectiform, and characterized by unconsciousness and convulsive muscular movements. The convulsions of general paralysis have some peculiarities to distinguish them. They are oftener confined to the upper extremities, affecting one side of the face or an arm or a leg, and are followed after a return of consciousness by a convulsive twitching of the facial muscles or an arm, which may continue for a period of one or more days; or there may be a succession of these seizures. The convulsive movements may be unilateral, clonic, or tonic. If the convulsion is severe and attended with a rise of temperature, death may take place from cerebral effusion at any stage. The presence of a convulsive seizure during the early stage is a very strong diagnostic symptom in any case that is not otherwise clear.

The maniacal symptoms of the second stage usually soon subside, and the patient may assume a quiet, natural manner, and be regarded by his friends as improved. There may be a remission or complete abatement of the active symptoms, and the patient may even be discharged from a hospital to reside at home. The remission may continue a few weeks or months, to be broken by a convulsive seizure, followed by decided mental failure. If no remission occurs the mental failure and paralysis proceed and constitute the third stage. In the future progress of the disease the characteristics of dementia appear. The comfortable, indifferent appearance and manner are preserved through all stages. Memory fails. Impressions are evanescent; a visit from a relative is forgotten when ended, and all the conditions of mental enfeeblement that have been mentioned as characterizing advancing dementia are present. The paralysis gradually becomes general if life is prolonged. The gait is staggering or ataxic; articulation becomes indistinct; solid food cannot be masticated, and only liquid food should be offered. If the patient does not die during a convulsive seizure, he gradually becomes helpless and bedridden, and is a pitiable object. It is not unusual in this

stage, after the patient is confined to bed, that extensive bed-sores and sloughs appear, notwithstanding every precaution and care that may be taken. At every stage of paresis the patient may have a convulsive seizure, which may be followed by others in succession. While a convulsion, or a series of attacks of this nature may occur, and the patient returns to his usual condition, yet, for prognostic purposes, the temperature should be frequently taken. If the temperature is noticed to rise to 104°, with an upward tendency, the case may then terminate fatally in a very brief period.

The subdivision of the stages of paresis is based upon the prominent mental and physical manifestations, rather than upon any established or known variation in the supposed pathologic conditions. The maniacal manifestations are not always observed, as we have seen that a patient may pass through the second stage without them, but it is the usual experience that they do occur. Neither do remissions always appear, but they are often observed, and the question may then arise whether the patient is to be regarded as recovered and may be again restored to the control of his business. If the patient has had a history of obscure nervous and mental disease, has passed through a

brief or prolonged subacute maniacal stage, with an altered and changed articulation, and perhaps an apoplectiform seizure, an opinion must be expressed that the remission is only a respite, and that further unfavorable changes will inevitably appear sooner or later.

The several stages of paresis are comprised in a period of two years in seventy five out of every one hundred cases. It is the general experience that every case terminates fatally, and no treatment seems to avert or much delay the inevitable result. It is observed that women suffering from paresis live longer than men, and rarely manifest the maniacal symptoms noticed in the opposite sex.

The causes of general paralysis have been the subject of most careful inquiry. The largest proportion of cases occur in the male sex. It was formerly supposed that women were exempt, but this has been shown to be incorrect. The disease is believed to be not inherited, but acquired. The history of the large majority of cases is one of intemperance, licentiousness, sexual excess, syphilis, or some nervous exhaustion incident to excessive application to business, or the great strain attending reverses. Fifty per cent. of the males admitted to the Pennsylvania Hospital for the Insane

have had a history of syphilis, and, of eight women, six had a history that furnished the strongest presumption of the existence of syphilis. It has been remarked by several careful observers that they have never known a well-bred lady to be affected with general paralysis. It is always a delicate question to determine the existence of sexual excess, and it is usually a matter of conjecture. On the other hand, as has been stated, paresis is a disease known to occur most frequently among the people more advanced in civilization. It is most frequent in the Anglo-Saxon race. Neither can we accept the allegation that business activity is an important factor, as the Hebrew race, always engrossed in business affairs, shows an exemption from the disease next to the negro. (Savage.) So, of syphilis as an element in the causation, how far its existence is a coincidence, and to what extent it is a cause, is yet to be regarded as unsettled. Of 20,000 cases of syphilis, it is reported (Lewin) that one per cent. became insane, but not a single case of general paralysis was observed. Others, however, insist that paresis is but one of the several manifestations of brain-degeneration from syphilis. While, therefore, the cause of general paralysis is still unsettled, the fact remains that the largest pro-

portion of its victims have led a life marked by some kind of excess, and a large percentage are known to have had syphilis, and whose brains on post-mortem examination show the peculiar changes produced by that disease in the nervous tissue and in the vessels.

Of the treatment of a disease that all experience goes to show progresses by gradual but certain steps to a fatal termination, but little can be suggested with a probability of averting the inevitable end. In hospital practice an attempt is made to ameliorate and cut short the paroxysms of maniacal excitement by medicines, one of the best of which is hyoscin. The action of digitalis is sometimes attended with excellent results. Chloral may aid in averting a recurrence of convulsive seizures, and in promoting sleep. If there is reason to suspect a syphilitic complication, mercuric chlorid and potassium iodid will often bring about a subsidence of acute symptoms and establish a remission.

With the loss of muscular power, if life is prolonged, a time arrives when the patient will be confined to bed, and will require attention to the bowels and bladder, and much care to prevent bed-sores. With every attention, it frequently happens that gangrenous sloughs form

rapidly from pressure as well as from trophic changes. It is important that the patient be kept dry, and the pressure upon sensitive parts be relieved by padding. An application of alcohol, alum, and solution of tannic acid has a tendency to harden the skin. Remembering the gluttonous habits of a paretic, and the general muscular impairment and paralysis that exist in the later stages of the disease, danger of suffocation from the lodgement of solid food may be averted by dividing it into small pieces or administering it in liquid form.

The prognosis of paresis is unfavorable for recovery. The delusions, propensities, general disturbance, and disposition to squander money are so pronounced that the wiser course is to place the patient in a hospital rather than to attempt the care at home.

CHAPTER XIII.

EPILEPSY.

The mental disorders that result from epilepsy deserve a brief notice. An epileptic seizure is characterized by sudden unconsciousness, convulsive muscular movements, a slight cry or moan, pallor of the face at the onset, followed by a flushed, turgid appearance of the countenance, frothing at the mouth, labored respiration, with deep inspirations, and sleep which is more or less prolonged. The seizures return from time to time, but not in accordance with any known rule.

It is usual to describe two forms of epileptic seizures: (1) One showing the graver symptoms described, and called by some *epilepsia gravior;* by the French, *grand mal.* The symptoms above alluded to seem to comprise a complete attack. (2) The seizure may be characterized by temporary, even momentary, unconsciousness, by pallor, and a slight convulsive twitching of the eyes and mouth. This incomplete form has been named *epilepsia mitior*, a milder

form of epilepsy; also by the French, *petit mal.* The attack may be so mild that the individual may pause while walking or engaged in conversation, a slight twitching of the muscles of the face and pallor appear, and at once resume where the interruption occurred.

In one view a convulsion is simply a sudden interruption of those normally acting and constantly existing co-ordinating functions of muscles, of those restraining factors that are called inhibitory. The intensity of contractile power that a muscle will show depends upon the degree of force emitted from the nervous centers. If there can be a conception of a high tension of psychic force, with such a sudden discharge or explosion as will disturb or destroy all balances or restraining powers, then there can be some appreciation of those irregular movements of the muscles that make up a convulsion. But the convulsive movements are not the whole of the case. There is, in addition, a state of unconsciousness, resulting in part from a disturbance of the circulation within the cranium. The convulsive seizure may be preceded or followed by mental changes; and these, when present, consist in irritability, hebetude, dulness, or restlessness, unusual mental and motor activity, passionate outbreaks, even to maniacal out-

bursts of fury. This changed condition of the patient may exist from one to two or three days before, or subsequent to, the seizure. The convulsive action of the muscles is only one of the manifestations of epilepsy, as epilepsy may exist without actual muscular convulsion. There may be unconsciousness of a momentary duration, so brief that a person engaged in writing, or in his usual occupation, may suspend and resume it without changing his position. There may also be a brief frenzy, continuing from a few moments to several hours without convulsion, or of such a slight nature that a friend will only notice a change in the countenence and a stare of the eyes. These peculiarities are in the nature of a discharge of a psychic force and temporary suspension of will-power, of which we know nothing except through its manifestations. To this condition, generally recognized, the term "mental epilepsy" has been applied. An epileptic paroxysm is often preceded by some sensory disturbance or sensation called an "aura," and which is uniformly of the same kind.

An epileptic may pass many years without perceptible mental change, but the usual experience is that he is observed to gradually become irritable and passionate, and that the

mental vigor abates. Some of the most terrible crimes recorded in the criminal annals of the insane have been perpetrated by epileptics. "The maniacal fury of these patients is of the wildest and blindest kind, which nothing can tame, the individual acting automatically, as it were, and in a state of unconsciousness." The mind of the epileptic is left after a fit in a morbidly irritable condition, in which the slightest provocation will derange it entirely. The tendency is toward enfeeblement, and the epileptic may eventually pass into a low, stupid state of dementia. Many of these persons go through life without visible mental impairment. Mental failure seems to depend on the frequency of the attacks and the degree of cerebral congestion that accompanies the seizures.

Epileptics have committed acts of incendiarism, homicides, and petty crimes, of which they retained no exact memory or consciousness. In some of these cases a confused recollection of some terrible struggle or mental oppression remains, in which hallucinations and illusions of sight and hearing have played an important part. In these cases, when criminal acts are committed, the courts usually hold that an epileptic during the interval between the seizures is not necessarily in a disordered mental

condition, and the question of legal responsibility for acts committed during this intermission is submitted to a jury. It is, of course, true that during the progress of a case in which the seizures occur at long intervals little or no impairment may be observed; but when it is shown that a criminal has epilepsy, and the well-ascertained deteriorations and changes that attend epilepsy—such as irritability, uncontrollable passion, dementia—are demonstrated to the court by a medical expert, or if the criminal act is committed at about the usual time of the occurrence of a convulsion, too great caution cannot be exercised about pressing a conviction in these cases. In those cases in which an act was perpetrated in close connection with a convulsion, there should be little doubt about the irresponsibility. During and immediately succeeding the fit the epileptic is in an unconscious condition, unable to exercise self-control, having no recollection of what has transpired, and is legally irresponsible.

Epileptics rarely die in a convulsion, and of the two forms, the milder form, or *petit mal*, is believed to exercise a more decidedly deteriorating influence upon the mental faculties than the other form. In a doubtful case, in which the mental conditions and changes peculiar

to epilepsy appear from time to time, such as intermittent, periodic manifestations of delirium, maniacal outbreaks of a transitory nature, dulness, stupidity, and hebetude in the morning, reasonable suspicions may be aroused that a convulsion has occurred, but had not been observed. It would be advisable in such a case that the patient be watched at night, as seizures are always more frequent at this time, and sometimes only nocturnal attacks occur. The tongue should be examined to ascertain whether it bears any mark of the teeth, and the bed, to learn whether an involuntary discharge of urine occurs during the night.

The *status epilepticus* is a prolonged unconsciousness and semi-comatose condition accompanying a quick succession of seizures. If there is a marked rise of temperature a fatal termination may be expected from cerebral effusion or from exhaustion of vital force.

It not unusually occurs that an adolescent is brought to the physician with a history of convulsive attacks closely resembling epileptic seizures, but it is not often that the physician is able to observe the patient in one of these attacks, which may have occurred intermittingly for a year. It is important to make a thorough physical examination of a young child who has

no neurotic heredity, and who has had no fall nor received any cerebral injury or shock, and in whom epileptic or epileptiform seizures are said to occur from time to time. Quite uniformly there will be found a disordered digestion, indicated by a tongue heavily coated with a pasty fur, and a distended, protuberant belly, resonant on percussion. Invariably there has been a ravenous, gluttonous appetite, the patient living largely upon starchy foods. A number of these cases have been relieved and cured by a change of food and the adoption of a new dietary, restricting the starchy foods, the administration of a tonic, a laxative, with a few grains of sodium bromid and fluid extract of ergot at night.

It seems important to break up what seems to be a tendency to a recurrence of convulsive seizures at an early age before the epileptic habit becomes established, and to determine how far they may result from reflex irritation, due to some error of diet or digestion, or both, which may be removed.

Recovery from epilepsy rarely occurs as a result of medical treatment. The number and frequency of fits may be decidedly reduced by the administration of potassium or sodium bromid alone, or combined with fluid extract

of ergot and strychnin. This must be accepted as the best result now attainable from medical measures. The effect of the prolonged use of the bromids is understood, yet the improved condition and comfort of the patient from their use is considered as a sufficient warrant for their indefinite administration. If the seizures recur with frequency, chloral with strychnine may be administered by the mouth, or by enema, with good results.

CHAPTER XIV.

ABNORMAL PSYCHICAL STATES.

THERE are disordered mental states which may arise either from traumatic or moral shock, or from obscure nervous disease, in which there appears to be a suspension of conscious cerebration or of the function of some one or more of the faculties of the mind, as the will and memory. There is some exercise of will-power, but in an automatic way, of which the individual has no conscious recollection. As illustrations of these conditions, it may be reported that an officer was thrown from his horse, receiving a concussion and shock, but remounted in an automatic way, spurred the animal to jump fences and cross ditches, made a proper salute to all sentries, threw himself on his cot in an exhausted condition, and on the following day had no recollection of what had occurred after the injury. A young man, while under the influence of a sudden and profound moral shock, was tried for the commission of a homicide by striking a blow, of which he testified he had no

recollection. In another case, a person in a railroad accident was said to have performed heroic service for the relief of others, and of which he was afterward wholly unconscious. Instances of persons who lie in a cataleptoid state, in ecstatic or lethargic conditions, or a "trance," or who wander away and suddenly recover consciousness, are examples of the abeyance of the will-power, the suspension of the faculty of memory, hallucinations of the senses, or of a prolongation of the so-called dream-state.

A student devoted himself assiduously to his studies, complained of inability to apply himself to his work and to retain what he heard or read. He suffered from headache and a sense of fulness about the head. He was pale, had an anxious, careworn expression, and moved about in a restless, weary, aimless manner. Suddenly, without any known cause, he disappeared from his college, and appears to have proceeded from Philadelphia to New York, which city he had never visited. How he travelled, how he subsisted, or where he lodged he was unable to state when found by his friends, ten days after his disappearance. Recovering a degree of consciousness, he addressed an envelope to his father, placing upon it his own name, and

gave a number in White Street, New York. He had an apprehension that he would lapse again into unconsciousness, and that he was not equal to composing a letter to explain his situation. When found his shoes and dress were worn, and his pockets contained paper bags with crackers and cake. The housekeeper who gave him a room stated that he never conversed, but answered questions "yes," or "no."

In the following year there was a similar disappearance, which lasted thirty-three days, the person going from Pennsylvania to New York, where it subsequently appeared he had no settled place of lodging. The second disappearance was preceded by restlessness and a cessation of all occupation and ability to apply his attention to his studies. After remaining at home for a year, symptoms of a third journey again appearing, he was placed under custodial care, when he was found affected with an obscure psychosis. With every appearance of frankness in reply to questions, and with no known cause for concealment, there is a loss of memory of what transpired during his wanderings, and the detail of the journeys is a blank.

Some of the conditions to which only an allusion is made in this chapter are, in the opinion of some observers, among the varied manifes-

tations of hysteria or the prolonged symptoms that attend the epileptic state. Persons thus afflicted cannot be classed under any one of the forms of insanity. They are in a state of unconsciousness, and criminal acts committed in either one of these conditions must be carefully analyzed and examined to fix the degree of mental unsoundness and responsibility, though they cannot be classed as insane.

It is characteristic of these cases that they have a history of nervous exhaustion. It is a story of neurasthenia in another key. There is a visible loss of mental and physical force; the bodily condition is below the normal standard; the face is pale; the pupils are dilated. The prognosis is generally to be regarded as favorable to recovery, and that under an improved dietary, tonics, and a complete change of environments, improvement will begin.

CHAPTER XV.

MORBID ANATOMY.

ALTHOUGH we are far from a definite pathologic basis of insanity, the great advances in the histology of the brain during the last half century, and more especially in the last decade, justify the hope that much now involved in obscurity may be sifted and analyzed to some practical result. The earlier investigations of cerebral localization, anticipating centers of intellect, emotion, volition, and other mental faculties, have yielded to a more generous appreciation of the principles of brain-structure and brain-action, placing, on the one side, the so-called "motor" and "sensory" areas upon the higher level of "psycho-motor" and "psycho-sensory" function, and, on the other, admitting the participation of the mind in all activities of the cortex, whatever their site. It is worthy of note, however, that cellular changes in the cortex in cases of mental disorder are most marked in the so-called motor region. Dr. Batty Tuke relates his experience to be that in

patients who "had succumbed earliest after the incidence of insanity, none of the cells of the anterior two-thirds of the frontal convolutions and of the posterior occipital gyri were as deeply implicated as those of the Rolandic area."[1]

In this area are found the greatest number and most marked grouping of the "ganglionic" cells, "the organs through whose instrumentality cerebral action is manifested," and in the changes and structure of these "psychic" cells must be sought the explanation of the mental symptoms of disease. Conforming to the universal law that the most complicated machinery is adjustable to the finest movements, their mechanism constitutes a most delicately organized system, responding quickly and easily to irregularities in tissue metabolism. According to Bevan Lewis,[2] each cell is surrounded by a looped capillary plexus, from which its nourishment is derived, the whole lying in a pericellular sac, an ampullar dilatation of the perivascular lymph-canal. In the perivascular structures are Deiters' "spider-cells," at first thought to be connective-tissue elements, but afterward assigned, by Bevan Lewis, a place in the

[1] Morrison: *Lectures on Insanity*, 1894.
[2] *Text-Book of Mental Diseases.*

"lymph-connective system." It was supposed by Bevan Lewis, in his earlier studies, that Deiters' cells, in view of their probable function, might be assumed to be scavenger cells; but more recent observations have led to the expression of other views, which accept the phagocytic action of the leucocytes, as well in the brain as in other structures of the organism. Several investigators have noticed that this phagocytic action is exerted upon the ganglion cells themselves. The relations of these two bodies have been recently explained by an analysis of the conditions found in sections not distorted by the process of hardening. In the pericellular spaces cells have been noted lying near the degenerated cerebral cells. The latter have presented upon the surface nearest these invading cells a semilunar gap, as if a piece had been bitten out. The impression given by this very striking appearance is that the nerve-cells *have been the object* of attack by the leucocytes.[1]

The integrity of the minute mechanism thus briefly outlined depends upon the prompt supply of nutrition and removal of the effete prod-

[1] John Turner: "Some Appearances Indicating Phagocytosis Observed in the Brains of the Insane." *Journal of Mental Science*, January, 1897.

ucts of cellular activity. The former fails in blood-stasis; the latter follows the accumulation of detritus and leucocytes, either from excessive action of the cell itself or from extrinsic causes of obstruction of drainage. This view seemed plausible from the change in the so-called spider-cells during active morbid processes in the brain, and its errors may be attributed to the lack of knowledge of the normal conditions of these cells. The *rôle* of the spider-cells was assumed from their connections and from their hypertrophy and proliferation in morbid processes. In the normal brain they are insignificant, but in pathological states they are greatly enlarged, and numerous processes become visible. Some of these processes approach or surround the ganglionic cortical cells, and the new system thus made apparent is completed by a connection with the cerebral vascular elements. They seem to have a more important function than simply binding, like guy ropes, the whole of the other tissues, though such binding cells must be necessary, and their hypertrophy appears to cause a disturbance of the other structures of the brain.[1] Attempts to associate naked-eye lesions with particular mental symp-

[1] See Clouston.

toms will be futile until the relations between the former and the cellular deviations shall have been revealed, a result partially attained in the assumption of general paralysis as a distinct pathologic entity.

Granular and pigmentary degeneration and vacuolation are the important organic changes in the cortical cells. Granular degeneration, first described by Major[1] (whose accurate description has not been improved), is characterized by a swollen and deformed contour of the cell, with dislocation of the nucleus toward its border, giving a "hooded" appearance.

Pigmentary degeneration, as shown by the fresh methods of Lewis, results in an irregularly outlined cell, enclosing in one of its parts "a small collection of golden-yellow pigment, through which a number of dark, amorphous, minute granules are scattered. It appears to be surrounded on all sides by protoplasm, but is quite distinct from the latter." The steps of the process are thus summarized by Bevan Lewis:[2]

Period of Over-activity.—(1) Swelling of cell, with increase of pigment. Dark staining of protoplasm, nucleus, and branches.

[1] *West-Riding Asylum Reports.* [2] *Op. cit.*

(2) Advancing degeneration; cell more globose; protoplasm retracting; sclerotic investment of cell and cincture formed.

Period of Diminished Activity.—Nucleus eccentric, deformed, fatter, with narrow encircling zone of protoplasm. Processes few; these, as well as cell-protoplasm, faintly stained.

Period of Absorption.—Fatty transformation and decoloration of cell. Atrophy, with shrinking or rupture into a heap of granules.

Vacuolation follows the escape from the cell of the oil-globules of fatty degeneration by absorption or manipulation. The cavities thus formed are limited and intact, and vary in number, as many as eighteen having been detected in one cell. The nucleus is individually susceptible to the same process. Granular degeneration is an accompaniment.

Morbid processes outside the cell consist in aggregations of leucocytes, development of spider-cells, and proliferation and contraction of connective tissue, with increase of its nuclei.

Colloid degeneration and miliary sclerosis, probably due to degeneration of medullated nerves, occur in the white matter, occasionally invading the cortex in the course of nerve-fibers.

The following comprise the commoner naked-eye appearances in those dying insane.

The Skull may be asymmetric or deformed, even in cases beyond the suspicion of idiocy. The bones may be thickened, attenuated, or increased in density. Greater or less degrees of thickening may accompany chronic inflammatory processes, resulting in increased depth of the normal depressions of the interior, the proliferation of bone not infrequently converting the grooves for the meningeal vessels into closed canals. Roughening is occasionally observed, but exostoses and spiculæ are rare, Bucknill and Tuke[1] reporting only three instances in four hundred examinations. Increased density may reach actual eburnation. Attenuation, with diaphanous areas, especially in the Pacchionian region, occurs most frequently in the aged.

The Dura Mater.—Severe frontal headache and neuralgia have been ascribed by Duret to compression of the nerve-filaments of the dura, arising from its inelastic nature when subjected to inflammation. Abnormal adhesion to the bone, so strong as to prevent removal of the calvaria without incision, is not uncommon.

[1] *Manual of Psychological Medicine.*

Attachments to other structures are more rare, and usually exist only through the medium of the Pacchionian bodies. A subdural false membrane, from inflammation or hemorrhage (pachymeningitis, hematoma of the dura), varying from a soft, gelatinous, yellowish or reddish-yellow mass, to a tough fibrous tissue, is found in all forms of advanced insanity, most frequently in general paralysis. "Rusty staining" of the inner surface, osseous plates in its laminæ, are occasionally developed. Psammomata, single or multiple, grow upon the inner surface, and encroach upon the brain, excavated to receive them. They generally appear insignificant. "Cauliflower-like excrescences" from the outer surface were noted by Clouston[1] in 1872. They accompanied tumors, and were regarded as *herniæ cerebri*, resulting from pressure. An identical condition, complicating a large tumor compressing both frontal lobes, is recorded in the *American Journal of Insanity* for October, 1892.

The Pia-arachnoid.—The aptitude of the pia for disposing of rapidly varying quantities of blood, the circulatory dependencies of the manner of dying, and the facility of gravitation

[1] *Journal of Mental Science.*

after death, inject problems into the determination of cerebral congestion not easily solved. Prolonged hyperemia, or low grade, chronic inflammation, during which a habit of accommodation of large quantities of blood has been acquired by the vessels, is indicated by thickening, opalescence, and the extravasation of serum, resulting in "water-logging" of the membrane and increase of the sub-pial fluid. Limitation of the latter to circumscribed areas, especially within the adhesions of general paralysis, is not unusual, thus scattering over the surface, generally near the vertex, "lakelets" of serum, of analogous origin, with which are cysts of the choroid plexuses. To severe degrees of inflammation are attributable minute hemorrhages, sanguineous effusions, and deposits of hematoidin near the vessels and their bifurcations. Miliary tubercles in the membranes and agglutinations of the latter with the cortex (except in general paralysis), are more appropriately lesions of physical disease than of the occasionally accompanying insanity.

The Vessels.—The significance of anomalous arterial distribution is rather physiologic than pathologic. Calcification has not been more frequently found among the insane than among those dying without marked mental

symptoms; at any rate, other than the intellectual failure of old age. Atheroma other than the preliminary stage of calcareous degeneration may be of syphilitic or of idiopathic origin. The shades of distinction are not clear; both show general distribution, are attended with thickening, and present the same liabilities of obliteration or rupture. The tendency of gummatous deposits to encircle the vessels, producing band-like constrictions, with proximal distention of the weakened walls in marked cases, produces a characteristic series of alternate contraction and dilatation resembling the outlines of a peanut. The development of attenuated sacs from these fusiform aneurisms follows the constant pressure of the blood-current. In one such case a series of consecutive aneurisms reached its culmination in size at the union of the internal carotids and middle cerebrals, presenting two large marble-like excrescences, one of which ruptured, flooding the base and causing instant death.

Chronic endarteritis,[1] whether idiopathic or secondary to chronic nephritis, has not received the recognition demanded by its importance or frequency. The cerebral form is distinctly an-

[1] *Transactions of the College of Physicians of Philadelphia*, 1889.

tagonistic to the proper nutrition of the brain. For its determination calcareous deposits are not essential. The vessels are tortuous and rubber-like, and on section of the cerebral mass the smaller arterioles yield unwillingly to the knife and protrude from gaping canals as twisted and tough shreds. Hypertrophy and dilatation, or valvular disease of the heart, often with distinctly accentuated aortic second sound, firm radial vessels, various paresthesiæ or local palsies, apoplectiform or epileptiform attacks, mental failure, and the general aspect of premature senility, indicate before death the nature of the pathologic process.

The Brain.—The average weight of 77 brains examined in one of our State hospitals for the insane was 42½ ounces; of 43 male brains, the average weight was 48 ounces; of 34 female brains, 37 ounces. The largest male brain weighed 56½ ounces, the smallest 37 ounces. Both of these were from cases of general paralysis. The largest female brain, from a case of organic dementia, weighed 48 ounces; the smallest, from a case of senile dementia, 32 ounces. Thurnam's[1] results showed the average weight of 1030 English, Scotch, and

[1] *Journal of Mental Science*, 1866.

German brains to be 47.7 ounces; the average weight of 257 brains of male patients in the Wilts Asylum, 46.2 ounces, and of 213 women, 41 ounces.

In 853 examinations at the West-Riding Asylum, Bevan Lewis[1] found "increased consistence or average firmness" in 390 cases, the remainder being "softened, either as the result of disease or of post-mortem change." The conditions resulting in diminished consistence were senile atrophy, general paralysis, and organic degenerations, following disease of the arteries. General softening is sometimes observed in cases of acute insanity on removal of the membranes, the pressure of manipulation disfiguring the surface, and the hemispheres falling apart from rupture of the callosal fibres.

Post-mortem congestion,[2] apart from the passive hypostatic distention of the veins, indicates inflammation. The cortex in inflammatory processes often presents more or less circumscribed and clearly defined pinkish areas. On section, the *centrum ovale* is studded with numerous scarlet *puncta vasculosa*, from which the blood freely oozes.

[1] *Op. cit.*

[2] Gowers: *Manual of Diseases of the Nervous System*, 2d ed., vol. ii. p. 377.

Atrophy would be the classic condition of the brain in advanced dementia, and it not infrequently exists, though excessive weights are found in terminal stages. In atrophy the convolutions are shrunken and thin, the fissures gaping and shallow, and the ventricles enlarged. In hypertrophy the summits of the gyri are flattened against the skull and the sulci are obscured. A typical configuration of the convolutions has little place in insanity. Sclerosis with contraction of one or both hippocampi is a common occurrence in epilepsy.

So-called organic dementia follows the great destruction of brain-tissue involved in tumors and hemorrhages, the latter probably occurring proportionately more frequently among the insane than in the community at large. Old hemorrhagic cysts, occasionally not suspected, are revealed at the post-mortem. Absorption of large portions of the cerebrum, placing the sub-pial region in direct contiguity with the ventricle, has been described as porencephaly by Kundrat, and an analogous condition, *hydrops ex vacuo*, is equally rare. The absorption of one entire occipital lobe, following an acute illness in a girl of fifteen, is recorded in the medical reports of the St. Lawrence State Hospital for 1894.

GENERAL PARALYSIS OF THE INSANE.

The essential pathologic process of general paralysis is acute or chronic meningo-encephalitis, or periencephalitis, whose important results are morbid adhesion of the pia mater to the cortex and atrophy of the brain. Both conditions are almost constant, Mickle[1] having determined the former in 92 per cent. of his cases, while absence of the latter is attributable to examination during the initial stage of engorgement. Variations in the lesions indicate differences in degree rather than in character of the morbid process.

The skull is generally thickened, either dense or rarefied, and may present irregularities of the inner surface. The dura is thickened, tough, abnormally adherent, and frequently lined by hemorrhagic membrane. On incision, an increased quantity of clean or bloody serum escapes, sometimes aggregating ten fluid-ounces. The Pacchionian granulations are enlarged and form adhesions between the dura and the pia that do not otherwise exist. The pia is thickened and injected, and its free surface is irregularly tumefied from localized accu-

[1] *General Paralysis of the Insane*, 2d ed.

mulations of serum. Adhesions of contiguous folds in the great fissures frequently lead to a coalescence of lobes. The arachnoid is dense, occasionally studded with minute granulations, and presents streaks of opacity along the vessels. Across the interpeduncular space it is hypertrophied into a tough, glistening curtain. Removal of the pia discloses the characteristic cortico-meningeal adhesions, the membrane being glued to the cortex "like a glove that had dried into an open sore." Portions of the gray matter, scattered and more or less punctate, are torn away, leaving pinkish, eroded patches, and resulting in the irregular surface graphically described as the "moth-eaten cortex." The adhesions are almost invariably limited to the summits of the gyri, and are most abundant in the motor areas, the superior frontal and temporal regions, and the orbital lobes.

The blood-vessels are irregularly distended, distorted, and thickened; those of the choroid plexuses are intermingled with serous cysts of varying size and number. The brain is softened and shrunken, the convolutions atrophied, the fissures patulous, the white *centrum ovale* beset with numerous bleeding points. The ventricles are enlarged, full of serum, and the lining ependyma granular.

The microscopic appearances indicate involvement of all tissues in the degenerative inflammation. The following observations were made from one section prepared by the fresh method of Bevan Lewis from a case of general paralysis of several years' standing: there were numerous irregular and ampullated arterioles, with superabundance of adventitial nuclei; the large pyramidal cells were swollen and "globose," and presented invariably a large extent of pigmentary degeneration; deeply stained spider-cells were numerous, especially near the summit, where was seen an intricate fibrillar network of clearly-defined and elongated cell-processes. Crowded closely about the edges of the gray matter, and less abundantly scattered through it, was a host of colloid bodies.

The following imperfectly summarizes the events of the morbid process: diapedesis, deposition of hematoidin, transudation of serum and leucocytes; stasis, distention, obstruction, aneurism, rupture; nuclear proliferation of the adventitia; excess of spider-cells and processes with susceptibility to stain; degeneration of nerve-cells from change in consistence to a broken-down residue, recognizable only as a faintly pigmented patch.

Participation of the spinal cord results from

extension of meningeal inflammation or nervous degeneration. Multiple sclerosis is occasionally found with general paralysis—locomotor ataxy frequently. The association of locomotor ataxy with organic cerebral disease and with morbid processes in the peripheral nerves leads Hirt[1] to remove it from the catalogue of systemic spinal diseases to a place among diseases of the general nervous system.

Although we are far from a definite pathologic basis of insanity, the great advances in the histology of the brain during the last half century, and more especially in the last decade, justify the hope that much now involved in obscurity may be sifted and analyzed to some practical result. A host of laboratory workers, following the suggestions of Golgi, His, Kolliker, van Gehuchten, Nissl, and other pioneers, have elaborated methods of technique, but to Nissl has been attributed the statement that the anatomy of the nerve-cell must be sharply defined before we may hope that a satisfactory pathology will be evolved.

[1] *The Diseases of the Nervous System.*

CHAPTER XVI.

MEDICAL CERTIFICATES; FEIGNED INSANITY.

Medical Certificates. — In the several States some provision exists for the legal detention and treatment of the insane in hospitals. In every proceeding for this purpose the opinion of physicians is the initial step, as from the nature of their profession they are expected to be able to decide the existence of insanity and direct the medical and moral treatment of the insane. The opinion of the physician is usually rendered orally under oath, or in the form of a sworn certificate. The State lunacy laws generally define the qualifications of physicians who are competent to make certificates of insanity. It is the duty of an examiner in lunacy to be familiar with the laws relating to the admission and detention of the insane in hospitals, in order that he may perform intelligently the service they impose, without undue risk to himself, and with a due sense of his obligation to all the interests concerned. "If the examiner is a physician of good repute,

if the examination and the certificate (or oral statement) are made in good faith, and as prescribed by the statute; if he possesses the requisite knowledge and skill to enable him to judge of the mental condition of the patient under examination, and if the examination be made with the usual professional care and attention—such a certificate (or oral statement) meets every requirement of the law, and if error is committed therein, and if, unfortunately, by reason thereof, a person of sound mind is committed to an asylum or hospital for the insane, the medical examiner will be relieved of responsibility and of liability in damages for unjust restraint of liberty."[1]

The insane may be divided into two classes: One class is made up of recent and probably curable cases, with many of the characteristics belonging to sick persons in general hospitals. Insanity may be due to obvious derangement of physical functions, on the correction of which recovery takes place. The patient needs medical treatment, nursing, and such restrictions as can only be furnished in a hospital. Another class comprises the insane with fixed delusions of gradual development and long standing, but

[1] T. W. Barlow, Esq., Commissioner of Lunacy, Pennsylvania.

without obvious bodily ill-health. They may be dangerous to themselves and to the community in which they live, or incapable of caring for themselves. They are not likely to recover under any treatment, but require suitable custodial care. The hospitals and institutions for the insane become, therefore, places for their medical treatment, as well as their care and custody. The State has created hospitals for the care of the insane of the indigent class, and has legalized other institutions for the insane for the express purpose of furnishing the means for their treatment and recovery. It is the public policy to encourage prompt and early treatment of all curable cases rather than to surround the admission of such cases to the hospitals by obstacles, delays, and vexatious perils to those engaged in the process of commitment.

A certificate of insanity is but an opinion of the medical examiner committed to paper according to the forms prescribed by the State or by its authority. A certificate of insanity has not, and cannot from its nature have, any inherent force, although it is an essential preliminary proceeding to admission to a hospital; yet, when completed, it is a sufficient warrant for detention. The physician does not, and

cannot, commit an insane person to a hospital by making a certificate of insanity—he has but expressed an opinion that insanity exists. The completed medical certificate establishes the status of the insane person. The medical certificate alone is usually not a warrant authorizing detention, and should not be considered complete until it has received the signature of a near relative, or some person requesting the admission, and until the *jurat* of a judge or magistrate is affixed.[1]

The forms of admission vary in the several States, but the general principle seems to be first to establish, by medical testimony, the existence of insanity to the satisfaction of a judge or magistrate, who may then issue the order for removal and detention in a hospital, or signify his approval or knowledge of a medical certificate.

As admission to the hospital depends wholly upon the actual existence of insanity, it can only be determined by a personal examination made by physicians separately. It is the duty of each physician to make a careful personal examination. It will not answer to come to a conclusion based upon verbal statements

[1] Pennsylvania Insanity Laws.

of other parties alone, or on the opinion of the co-examiner. Having made an examination, as contemplated by the law, and executed a certificate, the physician is exempt from the consequences of his act, provided he is not in collusion with others engaged in a conspiracy with a criminal intent, for he has discharged a responsibility and duty clearly imposed upon him by the statutes.

The examiner is first to determine whether the patient is insane. As insanity is a prolonged departure from the usual and established manner of acting and thinking, resulting from disease, in proceeding to make an examination the examining physician should endeavor to ascertain what is the normal mental and physical state of the person he is called to examine; whether any departure from the usual mental and physical health has occurred, and its nature; when and under what circumstances the change took place; whether there is any family heredity or neurotic diathesis, any constitutional organization predisposing to insanity, or whether there have been previous attacks. It is important to note the state of the physical health; the expression of the face as to the probable existence of dominating delusions or ideas; the state of the pulse; the

appearance of the face and eyes, as they may show the state of the circulation; the pupils, whether unequal, dilated, or contracting normally under the influence of light, and whether the expression of the eye is unusually bright, furtive, or suspicious; the temperature-record, if it is accessible; the state of the tongue or lips, to ascertain whether there are any irregular muscular tremors; the state of the reflexes and muscular tension; the character of the speech—whether thick, slow, or distinct, and whether words abounding in consonants are clearly pronounced; whether there is an incoordination of muscular contractions and movements; whether the person moves about in a restless, uncontrollable way; whether there has been a loss of weight; whether the person takes his usual food in sufficient quantity with the family and in his accustomed manner; when and why he ceased his usual vocation; whether the person sleeps or is insomnious; whether he remains in bed during the night, or rises and walks about; whether there has been a tendency to an exalted manner or enlarged and extravagant ideas, to talk in a loud tone and emphatic manner that may be unusual; whether there is a propensity to unaccustomed indulgence in excess of any kind; whether there is a

tendency to depression and melancholy without apparent cause; whether answers to questions are rational and responsive, or evasive and monosyllabic, and whether there is a hesitation in conversation due to evasion, dulness of comprehension, or stupor. The personal appearance and attire and the room occupied by the person to be examined should be carefully scrutinized. Bearing in mind the definitions of insanity, it should be established that the mental disorder is a prolonged one and not of a transitory character, nor due to the delirium that accompanies some bodily disease, as a fever.

In the course of the examination the examiner may learn of the existence of actual delusions or hallucinations of the senses from positive declarations, or their existence may be inferred from the answers given and the manner of the person examined. The existence of mental disease may be clearly apparent at once, but in doubtful cases a second or a third visit may be necessary. The examination by the physician should in all cases be thorough, and it is advisable, for his own protection and for that of all concerned, that a record or minute of the case be preserved for future reference.

If the examiner concludes that the patient is insane, then he should determine whether or

not he should be placed in a hospital for treatment and detention. If the person examined is, in the judgment of the examiner, insane, before the certificate is prepared the physician should determine whether "the disease is of a character which requires that the person should be placed in a hospital or other establishment where the insane are detained for care and treatment."

How shall he determine this point, which is an important element to the further or essential feature of the proceeding? The examination of the patient may or may not furnish a clue, but the physician may by means of his professional judgment, from the history of the case, and from conversation with the relatives, conclude as to what is, on the whole, best or necessary. If the patient is in a comfortable home, has no delusions about the place, the environments, or relatives, is willing to take medicine or food, and all can be done there for his safety that a hospital with its staff can do for his care and treatment, the physician may hesitate and not feel warranted in signing a certificate. If, on the other hand, the patient is noisy and refuses to yield to advice, has delusions about his home, friends, food, and medicine, if there are well-grounded fears of

suicide, homicide, or escape, or if the relatives and estate are not able to furnish all that is essential for the care and treatment, then the physician is justified, and it is his clear duty, to sign a certificate for admission of the patient to a hospital, "in order that he may receive the care and treatment" that are necessary, which he cannot receive otherwise, and which can only be furnished by a hospital. If the physician is familiar with insanity, and is able to make a diagnosis of the form and tendency of the disease, it is not necessary or advisable to wait and delay until a violent paroxysm has actually occurred, with the danger that permanent damage may be done to the brain, or, in another case, until the patient has passed into a confirmed melancholy or dementia.

The authority given to physicians to certify to the insanity of lunatics who are dangerous on account of delusions, but who are not suffering from an acute form of insanity, is likewise conveyed by the statute. The physician should proceed to make a careful personal examination of the individual alleged to be insane, as in other cases, and determine whether insanity exists, and whether the disease is of a character that requires that the person should be placed in a hospital where the insane are legally de-

tained for care and treatment. The physician is to determine, from his examination, whether the person is insane, rather than that he is simply dangerous, which may be regarded as a term vague and general, and not wholly within the province of the physician, although such a condition may attend the existence of insanity.[1]

The physician may be called to examine a person charged with crime or one convicted of crime and under sentence, and to express an opinion as to the existence of insanity. In some of these cases a conclusion is easily reached. There is also a perplexing border-land in which there is a shadowy line of demarcation between insanity, congenital obliquities, and criminal instincts, about which confusion, doubts, and honest differences of opinion will and do arise. Here the physician has no other course open to him than to ascertain as far as practicable what was the normal state of the criminal—his usual mental and physical health prior to the commission of the crime, and the time when it is alleged that a change of manner, thinking, and acting occurred, and compare the normal state with his condition at the time of the commission of the crime. The physician should

[1] Dr. J. B. Chapin: *Report of Penna. Com. of Lunacy, 1889.*

proceed in his own way to come to a conclusion, by pursuing a course of examination as for the preparation of a certificate of insanity, and to feel assured that the symptoms that are disclosed have appeared in an order that conforms to general experience.

Feigned Insanity.—The physician must bear in mind, in many of these cases, the possibility of the existence of a motive to conceal, to prevaricate, and to feign the existence of insanity. The ordinary experience is that individuals do not feign insanity for the purpose of gaining admission to hospitals or to be declared insane. If they exhibit any sentiment at all in the matter, ordinarily they seek to make the most favorable impression upon the mind of the examiner. Criminals who feign insanity usually affect some of the extreme manifestations of the disease. Suddenly, without any prodromal symptoms, the criminal may become destructive, violent, noisy, or dirty, or may sit silently, with his head bowed, may neglect his personal habits, allow the saliva to drool from his mouth, and refuse food. The experience of the physician teaches that mania is not developed without precursory symptoms, and that dementia is the terminal, and rarely the primary stage of long-standing mental dis-

ease. These cases have suddenly, and without any incipient stage, presented symptoms that could only have resulted from insanity of several months' or even years' duration. It is as incongruous as if a *typhoid* could be said to have begun with the last stage of the fever, which is contrary to universal professional observation. The attempt to successfully feign a semblance of insanity for a long time usually results in failure. As these feigners find it convenient to omit the usual precursory symptoms, they almost invariably end their shamming suddenly from sheer physical incapacity to carry on the deception longer, or the motive for its continuance no longer exists. Both the history of the beginning and the end of attempted frauds of this character furnish evidence for its detection, so that it is important that such persons be placed where opportunities exist for prolonged observation. It may be said to be the rule of experience and observation that insanity is not of sudden origin, its gradual development actually extending over periods of weeks and months. Neither does it begin and end with a criminal act as its sole manifestation. The criminal act, when committed by an insane person, is but one of several symptoms of his disease, or a legitimate

sequence of it that may be traced to a delusion. So, it may be said, that single, isolated, disconnected expressions are not, in themselves, symptoms of insanity. What is common, normal, and usual in one person may in another be unusual, abnormal, and only to be accounted for on the hypothesis of insanity. The individual must be compared with himself, as no fixed standard of sanity is recognized. The examiner must consider whether the whole group of symptoms amount to insanity, in coming to a conclusion in the preparation of a certificate of insanity, as well as in the examination of criminal cases.

It may be assumed that four-fifths of all persons feigning insanity will simulate dementia. Some of these malingerers in the course of their varied experience have seen cases of dementia, and this form of simulation does not require the intensity of action ordinarily witnessed in mania. The history of all these pretenders is usually quite uniform in one respect—that the simulation commences suddenly; that the manifestations are of an extreme character and always much overdone at the wrong period. The same rule that prevails in the observation of ordinary physical disease holds good here, so that the examiner has the right to expect some

approach to a regular order of development. The physician does not look for a consolidated lung at the outset of pneumonia, nor a typhoid eruption on the first day of the fever, and when he observes these symptoms he correctly assumes that a previous stage has passed. So, if a person is reported within a few hours to have refused to talk, who bows his head, allows the saliva to drool from the mouth, smears his room or cell with his excrement, rends his garments, refuses to talk or reply to questions; or if he makes a reply that is not responsive, or he utters a continued low mumbling of unintelligible words, there is presented a series of manifestations that belong to an advanced stage of dementia which, as a matter of actual experience, may be looked upon as a terminal stage appearing after a lapse of months or even years of previous insanity, and which could not develop possibly in a few days or hours. As a rule, and with rare exceptions, all forms of insanity have a prodromal stage like other diseases. Observing, therefore, carefully the manifestations and their exact history, bearing in mind under what circumstances dementia may appear and that all diseases have certain fixed laws of rise, progress, and decline, the physician can hardly fail to arrive at a correct conclusion

that the simulating dement is a fraud. If a sufficient time be also allowed for observation, it will soon appear that the simulator of mania has not sufficient physical strength or will-power to go through a paroxysm of more than a few days at the utmost, when the pretence will become transparent.

There may be less difficulty in reaching a conclusion when the criminal act is clearly the result and consequence of a delusion, and in those cases of mental degeneration in which the inhibitory powers have been obliterated by general disorder, or in which they are in abeyance from defective development. Criminal acts are also committed by persons who are partially insane—that is, they have delusions and delusive ideas, have an insane ancestry, and are known to be erratic, but the acts themselves have no direct connection with the mental disorder. They know the difference between right and wrong, yet upon slight provocation, smarting under a fancied injury, with deliberation, avowing their intention, commit a homicide or other grave offence. There exist all the elements of responsibility that belong to ordinary crime. Such cases are of acknowledged embarrassment to courts and juries. The physician must here express the opinion that

partial insanity exists, and may properly assume that it is only a question of time when in its progress it will become general, content to leave the question of degree of criminal responsibility for the court and jury to determine.

It is also of primary importance in any medico-legal investigation to determine the fact of the existence of insanity according to some principle or rule of experience, rather than to contend about the exact form of the disease or to indulge in pyschological theorizing. Differences in regard to the nomenclature of insanity will prevail, and no universal agreement can be expected—a fact that is commented upon as an exhibition of uncertainty in regard to a subject from its nature obscure and complex. It is not an unusual practice in our courts, where the issue is the question of insanity, to extract from medical witnesses or experts a name or form of insanity that exists. If there is a disagreement among the witnesses in this respect, or if obscure terms of a technical character are employed, there may result confusion and grave doubts in the minds of the court and jury as to the certainty and precision of science. It is a wiser course for medical men to avoid the use of unfamiliar and scientific terms and to adhere to a simple nomenclature in the present state

of knowledge and until a better agreement is reached as to terms and definitions.

There is often an effort to establish the existence of insanity in a doubtful or questionable case by aggregating together a number of episodes or events trivial in themselves in the life of a person, and assume that they prove the existence of insanity. The medical witness is confronted with the incidents in court, or may be obliged in the course of an examination of a person charged with a crime to form some opinion as to their import. Here he must conclude that while the trifling incidents are perhaps such as may appear in well-recognized cases of insanity, they are insignificant in themselves to prove that it actually exists, unless delusions are present to account for the actions. The insane act from motives, as do the sane, and both classes perform similar actions. In all medico-legal inquiries it is important that the medical witness, acting as an expert, endeavor to form some estimate of the normal characteristics of the person whose condition is under investigation, and ascertain whether any marked change has occurred as a result of disease or mental degeneration, and whether in its progress and continuity it is in accord with the rule of experience. To show the presence of in-

sanity to a degree to exempt from responsibility and consciousness, the mental change should be shown to exist to a degree to alter the usual habit of thinking and acting, otherwise little incidents and episodes, scattered over a lifetime, are of small significance. The medical witness may also be asked whether writers on insanity are authorities, and to this question an affirmative answer may usually be given, but with a qualification and reservation that no authorities exist in medical literature in the sense that the legal profession accept the opinions and dogmas of the higher courts. The views of medical writers are accepted only as they are in conformity to the general experience of the profession.

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